KNOX LIBRARY
POSTGRADUATE SCHOOL
MONTEREY, CALIF. 93940

NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

MANAGEMENT ADVISORY SERVICES BY CPA'S;
A SURVEY OF CURRENT EXPANSION OF
SOLE PROPRIETOR PROFESSIONAL PRACTICE UNITS

by

David George Hickman

December 1981

Thesis Advisor: R. A. Bobulinski

Approved for public release, distribution unlimited

T204035

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER	2. GOVT ACCESSION NO. / 3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle): Management Advisory Services by CPA's; a Survey of Current Expansion of Sole Proprietor Professional Practice Units	5. TYPE OF REPORT & PERIOD COVERED: Master's Degree; December 1981
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): David George Hickman	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Naval Postgraduate School, Monterey, California 93940	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: Naval Postgraduate School, Monterey, California 93940	12. REPORT DATE: December, 1981
	13. NUMBER OF PAGES: 204
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)	15. SECURITY CLASS. (of this report): UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release, distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Survey of Management Advisory Services by CPAs

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This thesis is about Management Advisory Services (MAS) and issues asso ciated with both current and future practice expansion efforts of sole proprietor Certified Public Account (CPA) firms. The shpere of MAS is described with emphasis placed on the CPA and his or her expanding role in delivery of professional management consultative services. A review of the MAS operating environment, various services, knowledge factors and in-

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE
S/N 0102-014-6601

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

internal CPA firm organizational aspects, provides a comparative basis for the reader's understanding of MAS pursuits by sole proprietor CPA practitioners.

The research was conducted through a survey and interviews with State of California CPA practitioners for the purpose of identifying practice trends and the professional's desire to expand current services. The survey results are presented relative to specific directions of MAS and a number of conclusions are made such as the need for firm specialization, client education, public advertizing and enhancement of knowledge skills and areas where more detailed study is required.

Approved for public release, distribution unlimited

Management Advisory Services by CPAs; a Survey of Current Expansion of Sole Proprietor Professional Practice Units

by

David George Hickman
Lieutenant, Civil Engineer Corps, United States Navy
B.S., School of Architecture, Ohio State University, 1973

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
December, 1981

Thesis
4526vf
c.1

DUDLEY KNOX LIBRARY
NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIF. 93940

ABSTRACT

This thesis is about Management Advisory Services (MAS) and issues associated with both current and future practice expansion efforts of sole proprietor Certified Public Accountant (CPA) firms. The sphere of MAS is described with emphasis placed on the CPA and his or her expanding role in delivery of professional management consultative services. A review of the MAS operating environment, various services, knowledge factors and internal CPA firm organizational aspects, provides a comparative basis for the reader's understanding of MAS pursuits by sole proprietor CPA practitioners.

The research was conducted through a survey and interviews with State of California CPA practitioners for the purpose of identifying practice trends and the professional's desire to expand current services. The survey results are presented relative to specific directions of MAS and a number of conclusions are made such as the need for firm specialization, client education, public advertizing and enhancement of knowledge skills and areas where more detailed study is required.

TABLE OF CONTENTS

I. INTRODUCTION..... 9

A. NEED FOR MANAGEMENT CONSULTANTS..... 9

B. THE CPA AS A MANAGEMENT ADVISOR..... 10

C. LIMITED RANGE OF SOLE PROPRIETOR CPA SERVICES.. 11

D. RESEARCH OBJECTIVE..... 12

1. Assumption Regarding Demand..... 12

2. Assumption Regarding Abilities and Desires. 12

E. BENEFITS TO BE DERIVED FROM THE RESEARCH EFFORTS..... 13

1. Encapsulation of Market..... 13

2. Increased Client Awareness..... 14

3. Identification of Areas of Specialization.. 14

4. Direction for Academic Development..... 15

5. Basis for Professional Enhancement..... 15

6. Replication of Previous Study Questions.... 15

F. APPROACH AND METHODOLOGY..... 16

G. THESIS SUMMARY..... 17

II. BACKGROUND..... 20

A. INTRODUCTION..... 20

B. MANAGEMENT CONSULTATION IN GENERAL..... 21

1. Prospective Client Organizations..... 22

2. Required Expertise and Areas of Activity... 23
3. Scope of Management Advisory Services..... 26
4. Evolution Within The Accounting Profession. 33
C. MANAGEMENT CONSULTATION AND THE PUBLIC ACCOUNTANT..... 35
1. Beneficial Leverage the Public Accountant Has Over Internal Management..... 36
2. Beneficial Leverage the Public Accountant Has Over Other External Consultants..... 38
3. Disadvantages and Imposed Limitations of the Public Accountant's Position..... 39
D. MANAGEMENT CONSULTATION AND THE FUNCTIONAL CONSIDERATIONS..... 42
1. Planning For Expansion..... 43
2. Internal Organization..... 45
3. Knowledge Factors..... 48
4. Conducting an Engagement..... 50
E. SUMMARY..... 54
III. RESEARCH PROCEDURES..... 55
A. INTRODUCTION..... 55
B. SURVEY QUESTIONNAIRE..... 56
1. METHODOLOGY EMPLOYED..... 56
2. MEASURES UTILIZED..... 57
3. BASIS FOR SAMPLE SELECTION..... 64

C. SURVEY INTERVIEWS..... 65
1. PREMISE FOR PERSONAL INTERVIEWS..... 65
2. NATURE OF QUESTIONS ASKED OF PRACTITIONERS. 67
3. NATURE OF QUESTIONS ASKED OF ACADEMICIANS.. 68
D. SUMMARY..... 70
IV. RESERCH FINDINGS..... 71
A. INTRODUCTION..... 71
B. SURVEY QUESTIONNAIRE FINDINGS..... 72
1. Degree of Questionnaire Response..... 72
2. Organization Background Analysis..... 74
3. Organizational Structure Analysis..... 80
4. Client Base Composition Analysis..... 84
5. Range of Professional Services Analysis.... 87
6. MAS Activity Growth Rate Analysis..... 94
7. Client MAS Demand Analysis..... 101
8. Services Advertising Analysis..... 102
9. Client Referral Analysis..... 104
C. SURVEY INTERVIEW FINDINGS..... 105
1. Selected Practitioner Interview Findings... 106
2. Accounting Academician Interview Findings.. 111
D. SUMMARY..... 116
V. CONCLUSIONS AND RECOMMENDATIONS..... 117
A. GENERAL..... 117

B. CONCLUSIONS..... 119

1. Organization Background..... 120

2. Organizational Structure..... 122

3. Client Base Composition..... 124

4. Range of Professional Services..... 125

5. MAS Activity Growth Rate..... 127

6. Client Demand for MAS..... 131

7. Advertising of Services..... 132

8. Client Referrals..... 133

C. RECOMMENDATIONS..... 134

1. For the sole proprietor CPA..... 134

2. For the educational institutions..... 135

3. For the Professional Accounting Societies.. 135

APPENDIX A: SIGNIFICANT MANAGEMENT ADVISORY SERVICE ACTIVITIES..... 136

APPENDIX B: KNOWLEDGE CONCEPTS INVENTORIES..... 137

APPENDIX C: SURVEY QUESTIONNAIRE..... 169

LIST OF REFERENCES..... 181

SELECTED BIBLIOGRAPHY..... 183

INITIAL DISTRIBUTION LIST..... 204

I. INTRODUCTION

A. NEED FOR MANAGEMENT CONSULTANTS

Because of the complex nature of many organizations and their associated operating environments, managers have found themselves inadequately equipped to completely handle a wide range of specialized organizational problems. [Ref.1] In an effort to confront and solve specialized problems, many organizations have sought help from professionals outside of the organizational structure. Professionals typically called upon to act in an advisory capacity to management, possess unique skills and represent diverse disciplines not normally found internal to a respective organization. These "external specialists" include economists, marketing experts, engineers, organizational behavioralists, certified public accountants and others, who are prepared by formal training and in depth experience, to provide information and guidance on all phases of organizational activities.

One specific professional discipline, which has historically provided a response to the external advice requirements of organizations, has been that of accounting. Professional accountants, specifically certified public accountants (CPAs), have fulfilled the external "financial expert" needs of management through provision of "traditional" accounting services such as independent audits, credible

income tax work and the development of meaningful financial reporting/control systems. Although the services of CPAs have pertained to issues largely financial in nature, increased organizational mandates for external advice related to non-financial matters, coupled with the profession's reputation for independence and competent skills, have placed increased expectations on the accounting profession to expand the scope of services normally provided. [Ref. 2]

B. THE CPA AS A MANAGEMENT ADVISOR

In response to management's increased demand for external "consulting", many public accounting firms have expanded the range of their professional services. [Ref.2] Some accounting firms now offer a broad range of "management advisory services" (MAS) to their clients. Those CPA firms that provide MAS have extended their normal accounting services into operational management areas such as budget development, cost analysis, system designs and office procedures. [Ref.3] The intent of MAS, as offered by CPAs, is to improve a client organization's capabilities and resources in order to achieve desired objectives.

Not all CPA firms currently offer management advisory services. [Ref.4] The reasons may vary, but in general some firms have chosen not to offer MAS to their clients because of insufficient staffing, specialized training or an understanding of complete service requirements. Public

accounting firms that have ventured into areas of MAS have found it to be rewarding and beneficial to the clients they serve. The accounting profession as a whole has also benefited from the offering of MAS by increased professional recognition and prestige. [Ref. 4]

C. LIMITED RANGE OF SOLE PROPRIETOR CPA SERVICES

While a student in the Financial Management Curriculum at the Naval Postgraduate School, Monterey California, the author of this thesis became more aware of the various organizational needs pertaining to external management advice. During a review of the methods and identification of providers of management consultative input, the author realized that although in general, the public accounting profession provides a wide range of expert management advice to organizations, sole proprietor CPA firms in particular, tend to limit their management advisory activities or not offer the services at all. [Ref.2]

Sole proprietor CPA firms that either limit the scope of MAS or do not offer the services at all, reduce additional opportunities for service to management which might otherwise potentially help increase profits and/or efficiency of the client organizations in need of the professional accountant's advice. [Ref.5] Sole proprietor CPA firms which do not formally advise management in operational or administrative functions of the organization, may not only do a disservice to their clients, but also to the CPA firm

itself by missing out on profitable organizational activity growth and enhanced professional stature.

D. RESEARCH OBJECTIVE

An overview of current accounting literature, as well as indepth discussions with several professionals in the accounting field, suggested that a need existed for the assessment of current practices and expansion efforts related to MAS activities by sole proprietor CPAs. The purpose of this thesis research was intended to provide a vehicle for determination of recommendations regarding the direction and the degree of evolution that MAS expansion efforts by sole proprietor CPA firms should take in order to satisfy client demands. The assessment need became the research objective and in its formulation, the author of the thesis made two fundamental assumptions:

1. Assumption Regarding Demand

The report assumes that clients of accounting firms, with few exceptions, have a need for some degree of external and professional management advice.

2. Assumption Regarding Abilities and Desires

It was assumed that the public accounting profession is capable and desires to satisfy client demand for management consultative advice.

Essentially, the thesis research objective focus was limited to sole proprietor CPA firms; in that, this category

of public accounting firm appears to service principally smaller sized client organizations which because of limited staff/resources could benefit the most from MAS, [Ref.1]; have demonstrated only a moderate MAS activity expansion rate as compared to larger national firms, [Ref.2]; and comprise the majority segment within the accounting profession and could therefore, stand to strengthen professional recognition the most. [Ref.6]

As a means of obtaining the desired thesis research objective, a test of the following null hypothesis was conducted:

H_o: In general, sole proprietor CPA firms are not willing to expand their practices to include a full range of MAS for the clients they serve.

Pertinent researchable questions were asked in the testing of the hypothesis for the purpose of attempting to prove/disprove its validity.

E. BENEFITS TO BE DERIVED FROM THE RESEARCH EFFORTS

Anticipated benefits to be derived from this report, as a result of the author's thesis research efforts, are as follows:

1. Encapsulation of Market

Given the existing complex operating environments, organizations (especially small sized ones), will continue to require expert management advice from professionals external to the organizational structure. If sole proprietor

CPA firms do not expand their range of services to meet MAS demands, other types of professional firms may choose to offer more extensive services in the management consultative market. The CPA profession as a result, may have to relinquish a portion of its "practice territory." This report will provide essential information necessary for sole proprietor CPA's to assess the direction of the expansion of their MAS activities.

2. Increased Client Awareness

Authors in the field of professional accounting have noted recently that businessmen and other organizational managers are not fully informed as yet to all of the management advisory consultancy services available from the CPA profession. [Ref.2] This study should help the professional accountant to "educate" his clients regarding the benefits and range of MAS practices. Hopefully, the study will be an informative and useful guide to MAS.

3. Identification of Areas of Specializations

Currently, some larger MAS practice units specialize in certain areas of operation management functions.(Ref.2) Sole proprietor CPAs may also be able to benefit from specialization within the field of MAS. An attempt has been made in this report to highlight possible specialization areas of interest both to the accountants and their clients. Sole proprietor CPA firms may find this report helpful as a

guide for assessing their current skills and the possible need to develop new ones.

4. Directions for Academic Development

As with most studies involving professional activities, this report should help the academic community in the formulation of curriculum geared towards management advisory consultative endeavors within the accounting profession.

5. Basis for Professional Enhancement

By looking at current MAS practices of sole proprietor CPA firms, it is envisioned that data contained in this report will help to increase the unanimity concerning an appropriate scope of MAS practices and thus, reduce any differences in the accounting profession. In total, the overall stature of professional accounting should be enhanced.

6. Replication of Previous Study Questions

Although this thesis research was directed towards the sole proprietor CPA firm, certain pertinent questions pursued in the process were not unique to this study. In part, an attempt was made to compare/contrast vital information obtained from surveys involved with the accounting profession as a whole, in order to verify or discount previous inferences made.

F. APPROACH AND METHODOLOGY

An inductive research approach and methodology was employed in this thesis for the purpose of attempting to disprove (test) the null hypothesis: H_o, in general, sole proprietor CPA firms are not willing to expand their practices to include a full range of management advisory services to the clients they serve. In order to conduct a meaningful test, questions relative to MAS activities, and the specific issue raised by the hypothesis were developed from, replication of isolated portions of previous studies, initial interviews with practitioners and academicians in the professional accounting field, and a review of current professional accounting literature.

The resulting questionnaire was sent to 300 randomly selected sole proprietor CPA firms within the State of California. Sampling was limited to firms within California for the sake of temporal and financial considerations. Random sampling of a finite population within the boundaries of California was felt to be statistically sound because of the State's diversity of organizational clients and the operational mode of CPA firms who serve them. The author of this thesis determined that sample results could, with a reasonable degree of certainty, be projected to other sole proprietor CPA practices throughout the remainder of the United States.

In addition to the use of the questionnaire as a sampling tool, in depth interviews were conducted with sole proprietor CPA practitioners. These interviews allowed a discussion of various questions and points of interest not permitted within the limited questionnaire framework. Questions were verbally directed to practitioners in order to get a "feel" for issues of a general nature such as the desirability of firms to meet client management advisory demands, and the practitioner's view of ethical considerations germane to MAS.

Utilizing gathered data, current sole proprietor CPA activity in the MAS area was analyzed using the "system technique." This essentially involved looking at the entire spectrum of MAS practices within one segment of the accounting profession (i.e. sole proprietor CPAs), the theoretical service boundaries, and the meaning of MAS as perceived by professional accounting societies and authors on the subject. Problem areas which were revealed by the survey are presented and discussed relative to general management advisory concepts.

G. THESIS SUMMARY

The intent of Chapter I was to provide the reader with an introduction to the public accounting profession's involvement in MAS activities; an identification of a potential problem in rendering of services by sole practitioners; a description of the research objective relative to the

problem; a listing of benefits to be derived from the author's study; and an overview of the investigative methodology and approach used in conjunction with preparation of the report. Essentially, Chapter I attempted to outline the rationale forming the basis for the author's investigative work.

Chapter II provides the reader with background information on the management consultative process with a large degree of emphasis placed on MAS activity expansion considerations. Specifically, Chapter II looks at management consultation in general, management consultation and the public accountant, and management consultation and the related functional considerations. A review of the MAS operating environment, various services, plus internal CPA firms organizational aspects provides a comparative basis for the reader's understanding of the realm of MAS pursuits within the public accounting profession.

Chapter III discusses the methodology employed in testing the null hypothesis, including a review of the questionnaires sent to the CPA firms, as well as the nature of questions asked of practitioners and academicians during person-to-person interviews.

Chapter IV reviews the data provided by returned questionnaires and indepth interviews. The answers provided by respondents are presented, discussed, compared and analyzed. Differences in key questions contained in the thesis

questionnaire and similiar ones dealt with in previous studies, have been highlighted for comparison. Problems pertaining to MAS expansion have also been identified.

Chapter V provides a summarization and attempts to integrate information contained in the previous chapters. Key issues of MAS activity by sole proprietor CPA firms are discussed in regards to past, present and future expansion efforts. Specific conclusions are made and issues for further investigation by others have been identified.

II. BACKGROUND

A. INTRODUCTION

This chapter provides the background information necessary for a thorough understanding of Management Advisory Services (MAS). The reader must understand the nature of MAS, the scope of services and the Certified Public Accountant's (CPA) operating environment, in order to appreciate the discussion of problems associated with it. Various considerations relating to MAS are covered and which are intended, to give the reader a full grasp of this professional public accounting service function.

Specifically, this chapter addresses topics pertaining to organization of the CPA firm in general and the overall scope of MAS activities. Special emphasis has been placed upon those elements integral to considerations given by CPAs regarding expansion of the current range of services. The emphasis placed on expansion of services, as viewed by the author of this report, is essential to the reader's perception of the relevance of issues raised by the basic thesis question.

The thesis question, which in-fact attempts to determine the willingness of sole proprietor CPA firms to expand into MAS areas, has been provided with meaning through a review of the domain of these consultative services. A review of

the domain of MAS has been presented in this chapter, from the perspective of how the public accountant can expand his or her activities to accommodate external management advisory needs of clients. A statement regarding the general background of management consulting has been provided first, followed by an analysis of the CPA's qualifications relative to rendering MAS. Finally, the discussion attempts to impart insight into common methodology and techniques used by qualified CPAs in the delivery of MAS.

The information presented is broad and general in nature and is, to a great extent, characteristic of the total field of MAS. For brevity purposes, the discussion has been limited to a survey of considerations germane to MAS and is not intended to be an indepth study of the subject. Information presented in this background chapter has been gathered from professional publications and previous studies dealing with MAS.

B. MANAGEMENT CONSULTATION IN GENERAL

As mentioned in Chapter I, many firms are not equipped to deal with specialized problems and have therefore had to rely on outside professional help.[Ref.1] In order that the reader understand the implications of this trend and its impact upon the accountant's expanded role, the following areas of the management consultation process in general will be reviewed: (1) Prospective Client Organizations; (2)

Required Expertise and Areas of Activity; (3) Scope of Management Advisory Services; and (4) Growth within the Accounting Profession.

1. Prospective Client Organizations

The demand for all types of management consultation service engagements spans many divergent organizations of varying sizes. This trend is not new or limited to strictly unique organizations as was noted by John L. Carey in his book Professional Ethics of Certified Public Accountants. [Ref.7] Carey observed that there

> "...is a mounting demand from business enterprises for expert aid in all phases of management which will increase efficiency and profitability. This demand comes from businesses both large and small. It springs from the increasing complexity of our economic system and the increasing intensity of competition in an era of rapid technological improvements. No one man can be technically competent to deal with all management problems of modern business. Businessmen require help, and it must be supplied by someone."

Large size organizations appear to exhibit the greatest demand for management consultation services, even though small firms would stand to benefit the most due to the usual limited availability of internal staff resources. Roger Wellington's contribution to the Accountant's Encyclopedia by his section on "Enlarging a Practice Through Management Services" [Ref.1], made the point that

> "...there is hardly a business of any size that cannot benefit in some way from competent professional assistance and advice, it is in the small company that the crucial need for management services generally exist. Information compiled by Dun & Bradstreet clearly indicates that inadequate

> management is the principle cause of small business failures. This is logical because the small concern usually cannot support a well-rounded management staff and, as a result, many staff services that larger firms consider essential are either not performed at all or are tacked on to the duties of an already overburdened executive."

It appears from Wellington's observation [Ref.1], that the greatest potential demand for management consultation services emanates from small organizations. Although it is the small organizations that could probably benefit the most from competent outside help, they are often the very ones that will not seek this professional assistance, or are not willing to pay for or follow it. Accordingly, it is the public accountant, in his other established capacity as an advisor in other matters who has an opportunity to "educate" the clients concerning their need for management services. In essence, the author contends that, small organizations offer the greatest demand for MAS, only if, clients are adequately informed of service benefits by the CPA.

2. Required Expertise and Areas of Activity

A literature search by the author indicates the management consulting field in general is a large and varied one. It consists of many small firms that tend to specialize in one or very few management areas, and some very large nationwide firms that operate in many different areas.[Ref.3] The larger firms are able to offer a broad range of qualifications and differing viewpoints to organizational managers. In the aggregate, both large and small

firms cover a wide range of specialized fields of effort within the general area of management. Management consulting firms offer specialized advice in management areas such as personnel, marketing, production, etc. Special management fields have prompted some firms to "specialize" in one particular area - for example, personnel. Other firms have combined specialized consulting arts into a more generalized type of practice.

Those firms which provide generalized management consulting services tend to concentrate on the following areas of activity:

a. Industrial Engineering

This in itself is an outgrowth of 'scientific management' that developed in the early part of the century. Industrial engineering is concerned principally with methods, standards and the like and also with theories of organization.

b. Marketing

The concept of marketing has developed from advertising and related problems, and from the need for independent organizations that can conduct large scale surveys of customers and markets.

c. Consulting Engineering

Consulting engineers are concerned with the design of factories, the layout of plants, the design of machines, and similar problems, all of which are approached with a view toward increasing efficiency.

d. Finance and Accounting

This, of course, has to do with measuring and reporting on financial results of operations. [Ref. 2] Aside from those mentioned above, there are a number of other types of advisors, not formally classified as "management consultants", who fill the consultative needs of management. Among these are experts from lending institutions, investment firms, law offices, equipment suppliers, advertising firms and others who have a direct interest in the operation and management of organizations. Business colleges and professors are also available to assist the manager to deal with often complex and specialized situations.

Except by specific professional discipline (i.e. engineering, law, accounting, etc.), there appears to be no set of defined or rigorous standards that govern entry into the "profession" of management consulting. [Ref. 2] There are also no recognized methods for determining professional performance, no strict licensing requirements, and no overall recognized standards of education, training or experience. Each professional discipline (as will be shown later for the accounting profession), identifies education, experience and standards of practice for their respective members to follow when providing management services.

There has been a movement towards professional recognition of the "management consultant"; however, attainment of

a professional status for practitioners has not been fruitful. As an example, there is an Association of Consulting Management Engineers (ACME), which has set forth a code of ethics and recommended practices by which its members subscribe. The impact of the ACME has been limited because it cannot enforce or mandate the society's standards. Anyone or firm can call themselves "management consultants", "management engineers", "management advisors" or the like. There is at present, no strict enforceable state or federal management consultation title or practice laws. [Ref. 2]

In the practice of MAS, the public accountant should be keenly aware of the fact that it is his or her professional stature that "qualifies" the CPA to offer MAS. Lacking any professional general management consulting society or codified practice regulations, the client has to rely on the reputation of specifically established professional disciplines when deciding upon who shall be retained to provide MAS. The CPA must ensure that the professional body he or she represents is in no way downgraded by the manner, and methods employed during an MAS engagement. [Ref. 8]

3. Scope of Management Advisory Services.

There is, as was noted above, a great number of different kinds of management services and outside professional help available to organizational managers. As was pointed out earlier, management advisory services are in fact, almost as numerous and diverse as the businesses

themselves. These services range all the way from general business counsel to highly specialized technical work, such as the mathematics involved in operations research. [Ref.1]

It appears, based upon a literature search by the author, that the primary objective common to all management service providers is to help managers to:

a. Conduct efficient and effective strategic planning
b. Direct and control day-to-day operations
c. Focus attention on deviations from organizational planning efforts
d. Arrive at reasonable and effective solutions to operating problems

It has been the public accountant who traditionally has helped managers plan, direct, control and solve problems, by providing them with information and advice largely financial in nature.

Traditional accounting work and advice (i.e., services other than audits, tax work, maintaining accounting records and preparation of financial statements), has facilitated general management planning through preparation of organizational budgets, financial statements and independent audits. Public accountants have devised for managers, financial accounting and reporting systems, which have highlighted problems and/or opportunities that might otherwise go unnoticed. The public accounting profession has given

management the necessary financial information by which day-to-day decisions can be gauged.

The author feels that, accounting practitioners are indeed qualified to advise clients on any matter related to accounting. He or she is obviously in a position to provide professional advice in areas such as financial reporting, internal financial control procedures and income tax issues. It is difficult, however, to draw conclusions regarding the limits of specific services that are of interest to the public accountant, as well as those in demand by the client.

A CPA's advice and services provided to a small client may be inclusive of all aspects of the organization. With a large client, who will in all probability have "in-house" expert staff members, the CPA's advisory role may be limited to certain spheres of organizational activity. Because of different organizational considerations, an exact definition of management advisory services, as performed by the public accounting profession, is impractical.

Although an exact definition of MAS may be impractical, one which would serve to delineate the general meaning of the term, as well as the inclusive scope of services, would prove beneficial to the practitioner who contemplates expanding his or her advisory role. James Redfield in his work, A Study of Management Services by CPAs, [Ref.9] provided an early (1961) definition of MAS practice, a few years prior to its period of greatest growth:

> "Mangement advisory services by certified public accountants may be defined as those services which are designed primarily to furnish advice or assistance to management through a professional relationship with respect to planning, organizing, or controlling any phase of business activity."

John L. Carey [Ref.7], has yet another definitive view regarding the meaning of MAS. Carey feels that MAS is inclusive of "...any service for management except financial auditing and tax work..." He sees the range of MAS as follows:

> "Advisory services to management include assistance in answering an infinite variety of questions which business management has to consider in making its inescapable decisions. On many of these questions the certified public accountant who has made an independent audit of the business may equip himself by study and research to offer useful suggestions: for example, alternative ways to raise capital, the possibility of expansion, the relative profitability of product items, the determination of break-even points and points of maximum return, the relative costs of selling in different markets, reasons for changes in the ratios of various cost factors to profits, and so on. On questions in such areas as these, the CPA who knows the historical experience of the business is familiar with its financial affairs, and is aware of tax considerations that should be able to provide useful information and advice if he makes himself competent to do so."

Carey's [Ref.1] ideas on the range of MAS are premised on the notion that CPA experience with their client allows them to "take-on" any management problem if they make themselves competent to do so. This concept will be discussed further in the discussion.

The American Institute of Certified Public Accountants (AICPA) views MAS as a professional relationship between the

CPA and the client. A description of MAS as contained in an AICPA publication, "Statements on Management Advisory Services", reflects the professional nature of services:

> Management advisory services by the independent accounting firms can be described as the function of providing professional advisory (consulting) services, the primary purpose of which is to improve the client's use of its capabilities and resources to achieve the objectives of the organization. This can relate to areas such as:
>
> a. The management functions of analysis, planning, organizing, and controlling,
>
> b. The introduction of new ideas, concepts, and methods to management,
>
> c. The improvement of policies, procedures, systems, methods, and organizational relationships,
>
> d. The application and use of managerial accounting, control systems, data processing, and mathematical techniques and methods, and
>
> e. The conduct of special studies, preparation of recommendations, development of plans and programs, and provision of advice and technical assistance in their implementation.

In providing this advisory service, the independent accounting firm applies an analytical approach and process which typically involve -

f. Ascertaining the pertinent facts and circumstances

g. Seeking and identifying objectives,

h. Defining the problem or opportunity for improvement,

i. Evaluating and determining possible solutions, and

j. Presenting findings and recommendations and, following the client's decision to proceed, the independent accounting firm may also be involved in -

k. Planning and scheduling actions to achieve the desired results and,

l. Advising and providing technical assistance in implementing. [Ref. 10]

By the above MAS definitions and ideas regarding range of activity, one point is made without a formal statement. The point being that although actual professional services are extremely diverse and employ many areas of knowledge, CPAs who engage in MAS do not make decisions for clients. Robert H. Roy and James H. MacNeil in their book Horizons for a Professional [Ref.11], compared the CPA's advisor role, not a decision-maker, with that of other professionals:

> "According to convention, clients (or patients in the practice of medicine) are advised by the professional whose services they retain. A lawyer advises his client to sue or to settle out of court, a physician advises his patient to undergo surgery, a CPA advises his client to revise his inventory control system. In none of these cases is the client obliged to obey. He, the client, is the decision maker."

Hence, the CPA who may indeed be "qualified" to make client decisions, must in fact adhere to reality in his or her professional client relationship, by providing advice only.

The variety or extent of MAS offered by CPA firms is limited by the individual accounting firm's resources, practice goals and adherence to professional ethics. Limitations on the scope of services provided are outlined in the organizational policy of each practicing CPA firm. The scope of services is not consistent between public accounting firms as was observed by Edward L. Summers and Kenneth E. Knight in their work, A Study of Required Knowledge for Management Advisory Services by CPA's:

> "Most firms voluntarily limit the scope or variety of services rendered so that they are consistent with the firm's resource limitations, interpretations of professional ethics or philosophy of practice. Such limitations on scope of services are stated as policies of the individual firm and are not consistent from one firm to another. The most commonly encountered services are those related to the systems operating in business functional areas such as finance, accounting, and data processing. The researchers found the scope of services rendered by individual CPA firms to vary between a few specialized services and the full range of services performed by large non-CPA general consulting firms. Only a few of the very largest MAS practice units attempt to offer such a full range of MAS services; however, services offered by these large firms are also offered in part by some of the smaller ones."[Ref. 3]

Essentially, the larger the CPA's practice is, the more likely the variety of MAS which he or she can offer clients. Because the amount of available resources constrains the

variety of MAS, some smaller firms "refer" clients to larger firms for management advice.

Actual and prospective CPA firm clients also influence conscious decisions regarding the nature and range of MAS that a public accounting firm will offer. Client types and numbers will cause the CPA firm to consider such factors as firm independence, the competence profile the firm wishes to present, and the specific interests of the CPA firm personnel. [Ref.2] The CPA firm will always determine the range of services to be provided by not accepting engagements that involve services inconsistent with its policies. A CPA may determine, by selective acceptance of engagements, its own scope and level of MAS services consistent with its skill and knowledge inventories.

As pointed out earlier, the CPA's extent and range of MAS is varied from firm to firm. To illustrate this diversity, a list of significant MAS services developed from replies of the "MASBOKE" firm survey, (AICPA sponsored, 1974) is provided in Appendix A. The service types noted in Appendix A were designated as significant by 40 percent or more of firms respondent to the "MASBOKE" firm survey.[Ref.3]

4. Evolution within the Accounting Profession

The scope of services provided by the American professional accounting community has, over the span of this century, evolved from work of an operating nature to specialized financial reporting efforts. Up until the early

1930s, public accountants provided clients with financial information and advice related to operating functions such as production management, costing systems and other assistance to decision makers. This role changed, however, with the advent of the Federal income tax and wider public ownership of companies. Greater demand for specialized experts in the field of auditing and tax work exceeded the number of available accountants. As a result, notes Wellington, "...it now appears that most professional accountants concentrate on services in the accounting, auditing, and tax fields, and leave the broader aspects of their practice, namely management services, to be done by others." [Ref. 1]

Wellington's assessment regarding service areas of major concern to present day public accounting practitioners tends to be supported by the AICPA-Roper survey which was conducted in May of 1974. The AICPA-Roper survey [Ref.3] of 1,152 small CPA firms and individual practitioners showed that 94 percent of the firms with two or more professionals reported offering MAS. Of the sole practitioners, 83 percent responded that they offered MAS services. The same survey responses indicate, however, that an average of only 10 to 11 percent of total professional time was spent on MAS. This was true for all types of firms regardless of size, location, and whether or not there were full-time professionals on the staff.

The survey does not indicate the increasing interest or growth rate associated with MAS. Reference material compiled by concerned groups or committees (i.e. MASBOKE task force, AICPA, MAS executive committee, etc.), illustrate an increased interest in the subject of MAS throughout the profession. Other surveys have revealed a positive growth rate in MAS functions, which of course reflects increased interest by CPA firms. In general, the projected MAS activity also appears to be favorable, although some variations concerning the rate have been noted by Summers and Knight in a survey conducted by them:

> "The expected growth rate estimates for MAS chargeable hours vary considerably, with the greatest variation found among estimates prepared by smaller CPA firms. An estimated average growth rate currently may be about 10 percent annually, but the researchers encountered some practices expecting no growth or even slight shrinkage (especially relative to the size of the practice prior to the 1971 recession in the consulting profession) as well as expectations of doubling in size from year to year. Thus, it may be said that a consulting practice is more sensitive to economic fluctuations than either audit or tax practice." [Ref. 2]

MAS activity, as has been suggested by literature reviewed by this author, may help contribute to the evolution of the accounting profession, just as increased interest in financial reporting and income tax work effected the provision direction early on in this century.

C. MANAGEMENT CONSULTATION AND THE PUBLIC ACCOUNTANT

As previously discussed above, today's public accountant is in a general way "qualified" to provide clients with

professional management advice. The focus of the discussion will now concentrate on the specific relationship of the CPA to management consulting, by an overview of three basic considerations:

(1) Beneficial Leverage the Public Accountant has over Internal Management; (2) Beneficial Leverage the Public Accountant has over Other External Consultants; (3) Disadvantages and Imposed Limitations of the Public Accountant's Position.

1. Beneficial Leverage the Public Accountant has over Internal Management

In most situations the author contends that, the public accountant has the ability to advise his or her client better in the area of efficient management programs than can the client's own staff. The generally agreed upon reasons for the public accountant's "superior" input regarding efficient management programs are as follows:

a. Independence of the Public Accountant

The client can insure that special management problems receive "expert" attention without the need to add permanent additions to the company payroll, if independent outsiders are employed. More important is the fact that an outside public accountant can deal with management problems with a fresh and objective view point. He or she is not normally constrained by internal organizational "politics." The public accountant is also relied upon by other outsiders, such as creditors, stockholders, government and

other interested third parties, for the preparation of credible financial statements. The public accountant in his or her traditional role has established "credibility," something an internal expert may find difficult to accomplish.

b. Knowledge and Experience of the Public Accountant

Normally, the public accountant has and many contacts with organizations of varying size, nature nad complexity; therefore, the accountant gains great insight into management operations. He or she has dealt with common basic organizational problems which the one-company individual may not have been exposed to. Across organizational boundary problems, as presented to the CPA, has required the professional to equip himself with many knowledge skills. MAS work brings these skills to bear upon a client's management problem. The inside consultant may never have the chance to develop necessary skills equal to that of the accountant.

c. Familiarity with Office Operations

While in the process of providing traditional accounting services, the public accountant becomes familiar with an organization's office procedures, policy and personnel. His or her observations of overall operations allow the public accountant to react to management problems with an appreciation of all facets of day-to-day operations.

2. Beneficial Leverage the Public Accountant has over Other External Consultants

During the above discussion regarding management consultation in general, it was pointed out that individuals who are not professional accountants, can qualify to provide outside advice to management decision makers. The CPA does, however, have certain advantages over other consultants in the following ways:

a. Knowledge of Accounting and Taxes

With almost certainty, any proposed management program or decision has to be viewed in the perspective of long-range financial effect, including the possible tax consequences. Financial and tax work is, of course, the public accountant's "forte," a skill not offered by other consultants.

b. Current Understanding of Operations and Organization Structure

In order to provide sound advice to managers, other independent consultants have to devote much time, effort and expense to obtain a working knowledge of the organization. A public accountant, through the course of his or her regular work within the concern, assimilates and employs this knowledge as a matter of routine. The public accountant has also an established relationship with employees of the firm, which enhances the process of gaining additional knowledge should it be required.

c. Recognized Professional Standards

Clients are aware of established protective ethical standards which guide the professional accountant's action. They have, an obligation to perform services for which they are qualified by aptitude, education, training, and experience. Other consultants may operate in a completely ethical manner, but the client has no assurance that they will do so beyond the personal evaluation of them.

3. Disadvantages and Imposed Limitations of the Public Accountant's Position

Having the necessary qualifications and "competitive edge" over other outside consultants has not encouraged or insured to the maximum extent possible, unlimited growth of MAS offered by CPAs, for the following reasons:

a. Management is Unaware of CPA's Range of Services

Public accountants (some) have failed to "educate" their clients regarding the scope of professional services they offer. The accountant needs to keep his or her clients advised of the type of services that can be rendered, what these services will cost, and what the client can expect in the way of cost savings and/or associated effectiveness payoffs. Recent changes to solicitation restrictions, as previously imposed by the AICPA, may provide impetus to CPA's need to pursue "salesmanship" relative to MAS offerings.

b. Failure to Acquire Management Consultative Knowledge

Very often, the CPA may not be willing to devote time to increasing his or her knowledge factors pertinent to MAS. The public accountant, because of his or her auditing and tax work, may feel that there is insufficient time to devote towards necessary research and organization aspects critical to expansion into MAS activities. The fact remains, however, that the CPA by his profession choice, has a "head start" on other outside consultants. As one author notes, "...a CPA can increase his practice by 50 to 100 percent without the addition of new clients by expanding into MAS activities." [Ref.1] Given this consideration, a CPA might consider finding time to devote towards gaining MAS skills.

c. Lack of Professional Referral Within the Accounting Profession

Accountants, unlike doctors and lawyers, have shown a marked reluctance as a group to refer certain problems of their clients to specialists within the profession who are particularly qualified to handle these problems. Consequently, clients must go outside the accounting profession for help in areas that members of the profession could have been of some assistance. Public accountants need to refer more within their own profession and

put aside fears of losing a client to another accounting firm.

d. Impairment of the CPA's Independent Status

As mentioned before, when a CPA provides MAS in response to client requirements, he or she insures that the service rendered is advisory in nature and in no way suggests that the public accountant is directly involved in the management decision-making process.

To become involved in the decision-making process would raise serious doubts regarding the public accountant's independence. The accountant must also insure that through provision of MAS efforts that he or she avoid any situation that would cause the CPA to lose an objective attitude towards the financial statements of his or her clients. Summers and Knight highlight this issue by noting that:

> "An element of the consulting process that is unique in CPA firms is the need to coordinate MAS engagements with the pre-existing financial audit relationship with the client. The auditor-client relationship is a continuing one that often extends over many years. In most firms performance of audits and preservation of the auditor-client relationship takes precedence over MAS and tax work for the same client - that is, to perform an audit engagement requires auditor independence, and no event or condition is allowed to intrude that has any appearance of, or potential for, jeopardizing auditor independence with respect to existing clients."

Essentially, when an MAS engagement is in process for an audit client, that most prudent CPAs will insure that a special review is conducted within the accounting firm to make sure that the auditor's independence is not

compromised. For non-audit clients, CPAs attempt to maintain an independent role in hopes that a continuing auditor-client relationship will emerge from the consulting work.

Mary E. Murphy, in her book, Advanced Public Accounting Practice, suggests that:

> ...a CPA who furnishes management services should answer two questions: first, Am I remaining an advisor to management and not entering the decision-making area?, and second, Am I sure that the audit of the financial statements will not involve checking my own work? Unless the practitioner can answer these two questions in the affirmative, his independence as to furnishing an objective report on management is in jeopardy. [Ref. 12]

Murphy's suggestion seems to provide guidance to the CPA which will allow him or her to comply with the "independence-in-fact" requirements of both the AICPA [Ref. 13] and the Securities and Exchange Commission (SEC rule 2.01 of reg. SX.). [Ref. 19]

D. MANAGEMENT CONSULTATION AND FUNCTIONAL CONSIDERATIONS

Management advisory services work does not lend itself to a "typical plan" of office organization or clear cut set of work methods. As a general field, MAS cannot be described and set forth in simple steps on a "how-to-do-it" basis. There are, however, based upon the author's research of the subject, procedures and approaches which have been successfully employed by public accountant practitioners. The following discussion will explore the more common functional considerations that a CPA should normally be aware of in

relation to expansion of his or her current practice into MAS activities. Functional considerations which will be discussed are (1) planning for expansion; (2) internal organization; (3) knowledge factors; (4) conducting an engagement.

1. Planning for Expansion

Obviously, good business sense dictates that sound management planning efforts proceed any anticipated organization, product line or service expansion program. The same reasoning should be applied by the CPA to expansion of services into MAS activities. A carefully thought-out plan, tailored to the needs of the firm's clients and skills of the public accounting firm members, under normal circumstances, will have the best chance of success. The literature suggests that MAS activity expansion planning considerations normally are based upon the following general approach:

a. Determine Extent of Management Advisory Services required by Existing Clients

This determination is normally accomplished by survey methods. Survey methods should suggest possible ways of specializing such as by: (1) industry; (2) area of management function; (3) Special types or areas of knowledge and techniques; (4) Services in the area of management controls in general systems.

b. Assess Training, Experience and Special Interests of CPA Firm Principles and Staff Members

This planning element would indentify the kinds of services that could reasonably be offered in response to client demands. It would also suggest additional training and staffing requirements necessary to satisfy immediate expansion. The purpose of this step is to underscore general direction of the firm's MAS activities.

c. Chart a Long Range Plan for Improvng Individual and Firm Abilities

The plan should build upon skills currently available within the public accounting firm and be consistant with previously agreed directions. Most plans of this nature, usually assign responsibility for becoming knowledgeable and proficient in specific areas to certain key individuals. Training schedules, procurement of reference materials, and tentative "learning" client engagements, are also made an integral part of the plan.

d. I Required, Develop a Plan for Recruitment of Specialized Staff Members

Some firms may find the need to recruit personnel with specialized and very specific qualifications, say for an example - an EDP specialist. Other firms may find it desirable to hire an individual who has had general MAS experience and assign him or her as an MAS department head. In either case, a staffing plan should be developed to

reflect timing of recruitment actions along with specific qualifications for the position(s) to be filled.

e. Prepare an Office Program Engagement Schedule for Prospective Client MAS Engagements

A schedule of all tentative MAS engagements should be made which graphically illustrates all prospective clients, types of services to be performed, critical milestone dates and personnel assignments. This schedule is used to plan day-to-day MAS efforts and provides a basis for performance measurement.

The above planning approach is broad in nature and would have to be refined in a manner conducive to requirements of an individual public accounting firm. Without an expansion plan, the author feels that the eventual success of CPA regarding MAS engagements may be subject to high uncertainty.

2. Internal Organization

Specific internal organization, like MAS, varies considerably between public accounting firms. In total, however, those CPA firms which carry out a substantial amount of MAS services normally set up a separate department within the organization. [Ref. 3] The "MAS Department" is assigned its own working space to facilitate exchange of information and ideas among staff members and principles. Large practices may choose to head up the MAS department with either a principle or senior manager (sometimes a

non-accountant professional.) Regardless of who heads up the department, regular meetings are held between principles and MAS staff to discuss engagement(s) progress, personnel assignments, quality of work and additional training requirements.

In the small office establishment, a separate MAS department is seldom found because of the impracticableness. Small firms, like the large public accounting firms, often hire specialists to help carry out MAS activities. Recently, there has been a trend for one or more small CPA firms to combine MAS staff resources into a professional corporation. The professional corporation allows individual CPAs to draw from a common pool of MAS resources and take advantage of management benefits derived from increased economics of scale.

Both large and small CPA firms involved with MAS typically exhibit various levels of professional responsibility. Compensation at each responsibility level is compatible to that encountered at similar levels in other professions and in top management in industry. Common levels of responsibility within large MAS firms are:

a. Staff Consultants

They represent the first level of responsibility and are often the least experienced in the consulting environment. Most are formally educated and possess unique

skills prior to joining a firm. A person will spend from one to four years in this position.

b. Senior Consultants

A senior consultant represents the second step in the responsibility ladder. A "light" senior may supervise other consultants, while a "heavy" senior may be in charge of several engagements.

c. Managers

A manager is at the third level of responsibility. He or she is responsible for planning, supervising and completing all MAS engagements. The manager provides day-to-day contact with client representatives and is normally responsible for determining engagement resource requirements, client follow-up and spotting possible new MAS engagements.

d. Partners or Principles

The partner or principle is at the highest level of the MAS/CPA organization and is responsible for overall engagement definition and planning. The partners or principles are the "public relations" element of the firm. They insure that MAS capabilities of the firm are made available in the potential client marketplace. [Ref. 2] CPA firms organized with inclusion of "MAS partners" typically insure that these individuals have extensive administration, educational and developmental responsibilities. Only rarely do

MAS partners become the senior partner in charge of an office of the firm. [Ref. 3]

3. Knowledge Factors

There are presently three major bodies of knowledge supportive of the MAS consultative process. [Ref.3] The three major bodies of knowledge which a public accountant involved in MAS activities must be aware of comprise certain "component" bodies of knowledge.[Ref.2] The major and component bodies of knowledge are as follows:

Major Body of Knowledge	Component Bodies of Knowledge
1. General knowledge, including the Consulting Art.	- How the CPA profession operates - How Business Operates and is manged - Unique characteristics of Public Sector Entities - Communication - MAS Practice and Engagements Characteristics
2. Knowledge of Organizational Functions and Technical Disciplines	- ExecutivePlanning, Implementation, and Control - Finance and Accounting - Electronic Data Processing - Operations - Human Resources - Marketing - Management Science
3. Knowledge of Industry and the Public Sector	- Industry - Governments and Not-for-Profit Organizations

Concepts from all three major bodies of knowledge may be required to perform any single MAS engagement. Summers and Knight reveal that these bodies of knowledge are not of equal importance or used by all MAS professionals [Ref. 2]. Among different MAS practitioners, the bodies of knowledge

also vary in their complexity, principle means of acquisition and specific application. The bodies of knowledge also, in terms of content and structure, are completely independent of such factors as CPA firm size, engagement size or complexity, and the means of service or extent of formal documentation, as practiced by the individual CPA firm.

In general, Summers and Knight believe that much knowledge of MAS activities can be reduced to a form that most consultants would recognize, and may be characterized as the ability to:

a. Establish a relationship of confidence between the consultant and others, including actual and potential clients at all managerial levels.

b. Establish two-way commuication with clients and other experts as required by the engagement.

c. Plan an engagement, from the formulation of the proposal to delivery of final recommendations, including appropriate documentation.

d. Assimilate information rapidly and fit it into a reasonable explanation of the situation.

e. Be persuasive and influential in areas important to execution of the engagement.

f. Change from one client's problems quickly and without mental slippage, remember details, know one's own limitations as well as those of others

and quickly correct or adjust for them in the engagement.

g. Develop additional skills and specializations as or before needed and recognize and utilize skills in others.

h. Accept professional or personal criticism, whether fair or unfair, without feeling threatened and deliver criticism constructively without appearing to threaten. [Ref.2]

The author contends that the professional behavior pattern suggested by this generalized knowledge is essentially a wholesome and open one. Part of the MAS knowledge requirements involves development of a "bedside manner," a skill which may only be developed through provision of service.

4. Conducting an Engagement

Conducting an MAS engagement begins with an engagement letter, which sets forth a clear understanding with the client as to specifically what the CPA's duties will include as well as the responsibility the client's own personnel will assume in assisting the public accountant. All agreements, verbal or otherwise, should be reduced to writing and incorporated into the body of the engagement letter. Failure to document agreements can lead to misunderstanding and client dissatisfaction.

Because MAS engagements vary in scope and nature, it is not possible to provide a general description of how one ought to conduct an MAS engagement. There are some sound principles which CPA's feel should be followed by the practitioner:

a. The assignment may require that an initial survey be made of the particular area of the client's operation that is to be studied, in order to clarify just what the work will involve. Then, based upon the results of this survey, a further program may be developed as needed.

b. The next step is to lay out as definite a work schedule for completion of the various phases of the assignment. This schedule should cover those phases for which the client will assume responsibility as well as those that you and your staff will perform. In this connection, in any work involving installation of a system or program, it is a good idea to have an appropriate person of the client's organization, probably a junior executive, assigned to work full time with the consultants during their assignment so that he will have a thorough understanding of what has been done, and why, and be able to carry on after the consultants complete their work.

c. As early as possible in the engagement, decide whether or not there is to be a report, and if

so, what the report is to include. This will enable you to collect the necessary information in the course of your work. Recognize that the preparation of reports in this kind of consulting work can be time consuming and expensive, but, of course, reports have great value. They not only summarize for the client what you have done, and your recommendations - they also serve to put on record the firm's experience and techniques in the particular kind of work involved. Such records can be highly useful within the firm in the event of similar engagements in the future. A well organized report is a very good guide for the writing of other reports for similar assignments.

d. During an assignment of any duration, regular reports on progress should be made, at least verbally, to the client. A definite scheduled weekly report is a good way to accomplish this.

e. If the engagement involves development and installation of procedures or systems that the client is expected to carry on, it is advisable to arrange for periodic follow-up visits, following completion of the installation, to iron out the inevitable "bugs" and to see that the

client's personnel are following through and carrying out instructions as they should. Without such follow-up, many a well designed system has failed to operate properly, with attendant unsatisfactory reflection on the competence of the consultant.

f. Be sure that you have done a thorough job on "selling" the client's personnel on what you are proposing on installing, starting with the man at the top. Resistance to change is natural, and without cooperation of the client, little can be accomplished.

g. An early agreement, probably at the time of making arrangements for the engagement, should be reached with the client on the method of billing the work - including rates to be charged, how often bills will be rendered, and an estimate of the total cost. Since it may be difficult to forecast the stopping point for work of this kind, it frequently is advisable to arrange montly billing for services rendered to date. Billing rates should be set so as to reflect the high caliber of staff required for this type of work, the extensive training necessary to equip the staff with improved techniques, and the partner's supervision necessary to assure the

client that the broadest experience of the firm is utilized in dealing with his problems. [Ref.1]

E. SUMMARY

This chapter has attempted to review the domain of management advisory services from the viewpoint of how the public accountant can expand his or her activities to accommodate client organizations' external consultant needs. Although the discussion was limited to a survey of considerations relative to management advisory services, it is hoped the reader has been provided with meaningful insight into common methodology, techniques and professional qualifications necessary for successful CPA endeavors relative to MAS.

Given complex operating environments, CPA client organizations will need to undergo major changes in an effort to provide products and/or services in a more effective and efficient manner. In all probability, client demand for MAS will increase in order to facilitate organizational changes. The sole proprietor CPA, if adequately trained and willing to increase his or her range of accounting services, may stand to benefit greatly from the offering of MAS. Questions related to the willingness of sole proprietor CPA firms to expand their present activities, as well as issues pertaining to MAS in general, will be discussed in the next chapter. The next chapter addresses the results of the sole proprietor CPA firm survey.

III. RESEARCH PROCEDURES

A. INTRODUCTION

This chapter is directed towards the research methodology employed in support of the central research objective discussed in Chapter I. Specifically, this chapter provides a comprehensive overview of the methodology used to determine the willingness of sole proprietor Certified Public Accounting (CPA) firms to expand current Management Advisory Services (MAS) activities and to also deal with resultant recommendations pertaining to the possible future direction and evaluation of these activities. Presented in this chapter, is an author developed questionnaire survey used to gather data relative to the extent and nature of sole proprietor CPA firm MAS engagements. In addition, questions asked during indepth interviews with selected sole proprietor CPA practitioners and academicians have been presented, along with the rationale for asking them.

The information gained during these interviews, as well as data obtained from the questionnaire, will be presented and analyzed in the next chapter. Specific conclusions with recommendations concerning the relevance of the data, to both existing and future sole proprietor CPA firm MAS practices, will be detailed in the final chapter.

B. SURVEY QUESTIONNAIRE

The following discussion of the author developed questionnaire attempts to focus on three interrelated survey and data collection issues: the methodology employed; the measures utilized; and the basis for sample selection. Aspects of these issues, which the author feels are important for the readers understanding of the analytical procedures, are described below. Sampling considerations pertaining to the personal interviews are discussed later in this chapter.

1. Methodology Employed

A survey was conducted by sampling randomly selected sole proprietor CPA firms via a mailed questionnaire (Appendix C). In addition to background data on the public accounting firm and its staff members, the questionnaire was designed to gather data concerning the organizational structure, client base composition and range of services germane to the specific organizations surveyed. The questionnaire was also structured in a manner to permit gathering of data related to the respective firm's assessment of their past and anticipated MAS engagement growth rates, the magnitude of client demand for MAS, the use of advertising for professional services and the willingness to refer clients.

Table III-1 summarizes the characteristics or attributes of the CPA firm organization or professional services being measured by each question of the questionnaire. In Table

III-2, the attributes being measured by each question have been grouped according to their specific area of general interest to the author i.e., respective accounting firm background, organizational structure, client base composition, etc.

2. Measures Utilized

Questions numbered 1, 2, and 7 of the sole proprietor CPA firm questionnaire which measured organization background information used a nominal scaling measurement technique for the purpose of categorization. No ordering among categories is implicit in this type of measurement. The purpose of the questions was to enable a segregation of data by groupings, such as public accountants certified in the State of California vs. those public accountants certified elsewhere, or CPAs with a business education background vs. those CPAs with a more technical education background. This type of analysis, was attempted for the purpose of validating the potential influence of general organization background considerations on the scope and extent of MAS offered. Due to their straight-forward objective approach, this author feels, that the responses to such questions were not biased.

Questionnaire items numbered 3, 4, 5, 6 and 12 were also based upon a nominal scaling measurement technique. The questions were designed to measure organizational structure attributes of sole proprietor CPA firms. The

TABLE III-1

KEY TO SOLE PROPRIETOR CPA FIRM QUESTIONNAIRE

(In utilization of the following information refer to Appendix C)

CHARACTERISTIC/ATTRIBUTE	QUESTION NUMBER
* Professional accreditation	1
* Age of firm's practice	2
* Degree of practice decentralization	3
* Size of professional staff	4
* Extent of staff dedicated to MAS	5
* Extent of professional staff dedicated to MAS	6
* Nature of proprietor's education	7
* Nature of client ownership type	8
* Size of client operations	9
* Extent of total firm service specialization	10
* Scope of total firm MAS activities	11
* Degree of MAS function separation	12
* MAS billing method	13
* Past MAS growth rate	14
* Projected MAS growth rate	15
* Relative desire to increase range of MAS	16
* Relative desire to increase client base through MAS	17
* Extent of factors limiting MAS activity expansion	18
* Extent of MAS specialization	19
* Nature of MAS specialization	20
* Degree of client MAS recognition	21
* Degree of client education efforts	22
* Nature of professional service advertising	23
* Impact of professional service advertising on total services	24
* Impact of professional service advertising on MAS activities	25
* Relative desire to refer clients	26
* Range of reasons for not referring clients	27
* Relative desire to specialize in MAS	28
* Relative assessment of proprietors MAS qualifications	29

COMPARISON OF AREAS OF GENERAL INTEREST TO SOLE PROPRIETOR CPA FIRM QUESTIONNAIRE

TABLE III-2

(In utilization of the following information refer to Appendix C)

AREA OF GENERAL INTEREST	CHARACTERISTIC/ ATTRIBUTE	QUESTION NUMBER
* Organization Background	* Professional accreditation	1
	* Age of firm's practice	2
	* Nature of proprietor's education	7
* Organizational structure	* Degree of practice decentralization	3
	* Size of professional staff	4
	* Extent of staff dedication to MAS	5
	* Extent of professional staff dedication to MAS	6
	* Degree of MAS function separation	12
* Client base	* Nature of client ownership type	8
	* Size of client operations	9
* Range of professional services	* Extent of total firm service specialization	10
	* Scope of total firm MAS activities	11
	* MAS billing method	13
	* Degree of MAS specialization	19
	* Nature of MAS specialization	20
	* Relative assessment of proprietor's MAS qualifications	29
* MAS activity growth rate	* Past MAS growth rate	14
	* Projected MAS growth rate	15
	* Relative desire to increase range of MAS	16
	* Relative desire to increase client base through MAS	17
	* Extent of factors limiting MAS activity expansion	18
	* Relative desire to specialize in MAS	28
* Client demand for MAS	* Degree of client MAS recognition	21
	* Degree of client education efforts	22
* Advertising of services	* Nature of professional service advertising	23
	* Impact of professional service advertising on total services	24
	* Impact of professional service advertising on MAS activities	25
* Client referral	* Relative desire to refer clients	26
	* Range of reasons for not referring clients	27

respondents were asked to select from a finite number of choices, organizational structural aspects which were unique to their firm's operation. Again, the author does not feel that the response to such questions were biased because of their straight-forward objective nature.

Question numbers 8 and 9 were formulated to measure the sole proprietor CPA firm's client base composition attributes. These two questions were based upon an ordinal scale of data measurement. This form of measurement ranks objects or situations from the smallest to the largest or from the lowest to the highest. In this case, the questions are intended to measure two specific client base composition attributes; that is, the client organization ownership type as well as the relative client organization size. Bias may have resulted from interpretation of the client situations. It also may have been difficult for some sole proprietor CPA's to accurately express from memory just to what degree their clients are organized and/or the exact size of the client's operation.

Questionnaire item numbers 10, 11, 13, 19 and 29 measured the range of professional service attributes of the sole proprietor CPA firm practice. With the exception of question number 10, the nominal scaling measurement technique was employed for the purpose of categorization of various data attributes. Again, there was no attempt to order among the categories with this type of measurement device. In

question number 10, there was an attempt to order a specific range of professional service attributes. It may have been possible to bias the data obtained from question number 10 because of an inaccurate personal perception of definitive terms used in the body of the question. For example, two CPAs may have interpreted the word "roughly" different in this question. All questions may have been subject to this bias, even though an attempt was made by the author to reduce such ambiguities. Question number 10 may also have been biased, in that, the respondents were not asked to verify requested "percentages" through a search of their firm's records.

Question number 20 also looked at the range-of professional attributes; however, the question was open-ended in nature and subjective. It was designed to solicit a response which dealt with the actual areas of MAS specialization. A response was predicated on the respondents "yes" answer in question number 19 (a nominal scale range of professional attributes question). The intent of this question was to augment the specified fixed range of professional services contained in question number 11. Although the responses were subjective, they should provide valuable insight into propositions regarding the range of MAS services.

Question numbered 14-18 and 28 were developed on the basis of three different forms of information and attribute

data measurement techniques. All of these questions were designed to address aspects of MAS activity growth rate information or attributes. Questions numbered 14, 15 and 28 employed the nominal scaling technique. There was no basis to categorize data required of questions 14 and 15. Question number 28, which addressed the desire of CPA firms to specialize, could have been based upon an interval scale measurement technique in order to assess the degree of desire to specialize. For questionnaire brevity purposes; however, the author chose to use a nominal data measurement scale. Questions numbered 16 and 17 were based upon an interval scaling form of measurement (10 point Likert scale). In this type of measurement, objects are not only ordered with respect to some measured attribute, but the intervals between adjacent points on the measurement scale are equal.

Questions numbered 16 and 17 were not pretested or validated. It may have been possible for the responses to these questions to be biased. The social desirability could have prompted an accounting practitioner to respond in a manner which the individual believes is compatible with his or her professional society's "stated position." It may also be that, the accounting practitioner had never before given considerable thought to issues addressed in the questions prior to receipt of the questionnaire. The individual's response may strictly be intuitive and without much

prior conviction. This type of bias is also possible with questions 15, 18, 22, 25, 26, 28 and 29.

Question number 18, which as mentioned before also address MAS activity growth rate information or attributes, is essentially an open ended question designed to identify limiting factors relative to expansion of MAS activities. The responses, were in part, purely subjective. They do however, help define the extent of service expansion limitations.

Questionnaire items 21 and 22 attempt to measure client demand for MAS attributes through the use of a nominal scaling technique. The purpose of these two questions was to provide a categorization of data with regard to the degree of sole proprietor CPA firm client's recognition and understanding of MAS. Question number 22 may have resulted in some degree of bias because it essentially deals with a professional "judgement" issue. Based on a literature review by the author, professional accounting protocol suggests that practitioners should "educate" clients concerning service skills and benefits.

Questions numbered 23-25 deal with advertising of service attributes. Nominal measurement scales were used. In the opinion of the author, the data may have been biased due to the difficulty experienced by firms in substantiation of gains (positive or negative) resultant from advertisement endeavors.

Questions numbered 26 and 27 look at the last area of general survey interest, specifically, client referral attributes. Question number 26 is based upon a nominal scaling method and is unbiased due to its objective nature. Question number 27, on the other hand, is open-ended and subjective. This question attempts to extract bonafide practitioner reasons for not making client referrals.

3. Basis for Sample Selection

The survey questionnaire was sent to 300 randomly selected sole proprietor CPA firms within the State of California. These firms were selected from a total population of sole proprietor CPA firms which numbered 3,047. Firm names were drawn by a random selection process from the California Society of Certified Public Accountants, Directory of Members, August 1980, "CPA firms and Proprietors." [Ref.15] In selecting which sole proprietor CPA firms would receive the survey questionnaire, it was decided for the sake of temporal and financial considerations, to limit sampling to the State of California. Random sampling of a finite population within the boundaries of California was thought by the author to be statistically sound because of the State's diversity of client organizations and the operational mode of CPA firms who serve them.

The author of this thesis determined that sample results could, with a reasonable degree of certainty, be projected to other sole proprietor firms throughout the remainder of

the United States. It was also determined by this author, that a minimum of 35% of the sample population should have been sufficient to ensure reliability of that data results. A 50% response is typical in social science research. [Ref. 16] Based on two previously related surveys; however, one conducted by the Roper Organization [Ref. 4] and the other by an AICPA, "MASBOKE" task force, response rates of which were 46% and 28% respectfully, the author felt that a 35% expected return rate would provide a statistically significant sample. Anonymous replies were solicited and respondents were told that all information provided by them would be considered confidential. Surveyed firms were provided the opportunity to indicate to the researcher, their desire to be sent a summary of the survey results.

C. SURVEY INTERVIEWS

The discussion will now review sampling done through personal interviews. Specifically, the discussion will address three overall data collection considerations: the premise for personal interviews; the nature of questions asked of practitioners; and the nature of questions asked of academicians.

1. Premise for Personal Interviews

Indepth interviews were conducted with selected sole proprietor CPA practitioners and accounting academicians. These interviews were conducted in addition to and after the survey questionnaires were returned. The use of this type

sampling tool was premised upon the author's view that indepth interviews would allow discussion of various questions and points of interest not permitted within the limited framework of the questionnaire. Questions were verbally directed to practitioners in order to get a "feel" for issues of a general nature such as the desirability of specific firms to satisfy client management advisory demands, and the practitioner's view of ethical considerations germane to MAS. Those questions of a general nature, which were verbally asked of academicians, were intended to gather data related to current professional accounting curriculums as well as the degree of emphasis placed on development of a student's MAS skills.

All questions directed towards the respondents during the inteview were of the open-ended type. The author realized, that with this type of question, the data would be more difficult to analyze and generally less amenable to statistical testing than data from fixed alternative (i. e. nominal, ordinal or interval scaling measurement) type questions. It was thought; however, that the open-ended format could permit the author to tap the respondent's perception of the research topic and allow for additional probing by the interviewer. Also, with the use of open-ended questions, the author believed he would be better able to perceive when a question was misunderstood, allowing him the opportunity to repeat it or otherwise aid in its

clarification. Open-ended questions coupled with person-to-person interviews allowed the author to explain in more detail the purpose of the study and its significance. The interview survey method was intended to complement the more objective questionnaire, not to supercede it.

2. Nature of Questions Asked of Practitioners

The general nature of the questions asked was directed towards facilitation of a discussion. They were broad and designed to add "color" or dimension to the "black and white", skeletal objective questionnaire. Essentially, the interview discourse centered around the following questions:

a. Do issues related to "professional ethics" and the CPAs requirement for "independence" influence the choice to offer and/or limit MAS activity? If so, what are the central issues and to what degree do they limit MAS activity?

b. Are CPA practitioners adequately prepared by formal education or work experience to handle a wide range of MAS functions? If not, where can educational or work experience learning efforts be strengthened?

c. Do sole proprietor CPA firms really "know" their client organizations sufficiently enough for them to be in a position to offer a wide range of MAS or should the scope of services be limited to

issues relevant to accountant's understanding of the clients' operations?

d. Do sole proprietor CPA firms differ with respect to how they define or perceive what constitutes MAS? That is, does the term MAS have a common and finite meaning between CPA practitioners?

e. Assuming that MAS included services other than audits, tax work, maintaining accounting records and preparation of financial statements, are CPAs willing to expand their activities into management advisory areas? If not, what are the reasons?

f. Is there a general willingness for sole proprietor CPA firms to refer their clients for management advisory needs? If not, what are the major reasons for not doing so?

g. Have professional accounting organizations (AICPA, California Society of CPAs, etc.) played an acceptable role in MAS standards setting. If not, how can standards be improved?

3. Nature of Questions Asked of Academicians

The author's data gathering interviews with academicians concentrated on the following general questions:

a. Currently, do public accounting curriculums adequately prepare students, at the bachelor degree level, to assume a meaningful professional role

in MAS? Do accounting curriculums at the masters degree level adequately prepare students for MAS roles? If curriculums at either level lack adequacy, what improvements should be made?

b. Are courses which are related to MAS, such as management sciences, electronic data processing, personnel, etc., offered to students on a purely "elective" basis or are they "built in" to the standard accounting curriculum?

c. Are students at the bachelors or master degree levels provided specific knowledge pertaining to how the CPA profession operates, how one might conduct a MAS assignment and what MAS standards and procedures are currently followed by practitioners?

d. Are individuals who graduate from an accounting program better qualified to move into MAS areas than individuals who graduate from a general business or general management program?

e. Should colleges and universities attempt to develop programs which allow students to specialize in a specific area of MAS or should these programs be designed to produce MAS generalists?

f. From an academic institution perspective, is there a general problem with the definition of

MAS? Is there a general consensus regarding what should be included in the scope of MAS?

D. SUMMARY

In this chapter the author has attempted to outline for the reader, the research methodology employed and the basis for its use in support of the study efforts. Specifically, this chapter has provided an overview of the methodology used to assess the willingnes of sole proprietor CPA firms to expand their current range of MAS activities, and to address resultant recommendations concerning the possible future direction and evolution of these activities. The author provided a review of both the questionnaire and personal interview sampling tools, along with an explanation for their design, use and possible statistical shortcomings.

In the next chapter, the author discusses the analysis of the data captured by these sampling devices. Answers relating to the returned questionnaires and personal interview questions will be presented, discussed, compared and analyzed. Differences in key questions, asked of the survey respondents and which were similiar to questions asked in previous studies, are been highlighted for the sake of comparison. Potential problems pertaining to MAS expansion will also be identified.

IV. RESEARCH FINDINGS

A. INTRODUCTION

The purpose of this chapter is to present an analysis of data which was captured by the sampling methods discussed in the previous section of this thesis report. Information provided by the survey questionnaires as well as personal interview questions have been presented, discussed, compared and analyzed. As was mentioned in the previous chapter, significant differences in key questions asked of the survey respondents and which were similiar to questions asked in previous studies have been highlighted for the sake of comparison. Potential problems pertaining to Management Advisory Services expansion have also been identified; however, conclusions and recommendations regarding these aspects have been deferred to the final chapter.

The emphasis of this chapter is limited to an analysis of the compiled data. There has been a conscious attempt by the author to minimize inference statements pertaining to the findings. The reader should be aware that this report's findings do not rely on a rigorous statistical analysis of the data content. For simplicity and conciseness of understanding, the author has chosen to present the research findings through the use of descriptive summaries, figures and tables.

B. SURVEY QUESTIONNAIRE FINDINGS

A review of the author's questionnaire findings, along with an analysis of the related data, have been keyed to the following general considerations:

1. Degree of Questionnaire Response.
2. Organizational Background Analysis.
3. Organizational Structure Analysis.
4. Client Base Composition Analysis.
5. Range of Professional Service Analysis.
6. MAS Activity Growth Rate Analysis.
7. Client MAS Demand Analysis.
8. Services Advertising Analysis.
9. Client Referral Analysis.

With the exception of the "Degree of Questionnaire Response", the above considerations have been keyed directly to those general areas of questionnaire interest, which were identified in the previous chapter dealing with the research methodology. Considerations pertaining to the analysis of personal interview questions are discussed later in this chapter.

1. Degree of Questionnaire Response

The author's sole proprietor CPA firm questionnaire was mailed to 300 randomly selected California public accounting firms on 23 October 1981. Prospective respondents were allowed 10 days from receipt of the questionnaire to review it, answer the questions asked and return it to

the researcher via a pre-addressed envelope. By 6 November 1981, the author had received a total of 94 completed questionnaires. There were no further responses after this date.

The original sample size was reduced by a total of 16 due to the apparent relocation or disestablishment of certain practices. The postal authorities indicated that these 16 firms did not have forwarding addresses. Because of time constraints imposed on the author's research efforts, there were no attempts made to sample 16 additional firms. Accordingly, the sample size was reduced to a total of 284. A total of six unanswered questionnaires were received and anotated by the respondent regarding his or her intention of retiring from active practice. These six responses did not reduce the revised total sample size of 284 and were considered as non-responsive in all respects.

The 94 valid responses, coupled with the reduced sample size totaling 284 resulted in a net survey response rate of 33 percent. Computations used to determine this rate have been provided below in Table IV-1. The actual 33 percent response rate fell short of the expected 35 percent response rate. The author feels that the actual response rate is sufficient enough to permit statistically discernable inferences to be made from the data provided.

TABLE IV-1

- SOLE PROPRIETOR CPA FIRM SURVEY -

QUESTIONNAIRE RESPONSE RATE

Total number of questionnaires mailed:	300
-Less; number of questionnaires marked "Return to Sender":	(16)
Total sample size:	284
-Less; number of non-responses to survey:	(190)
Total number responding to survey:	94
Survey response ratio:	94 ÷ 283 = .3309 (say) = 33%

2. Organizational Background Analysis

The findings related to the general organizational background of those sole proprietor CPA firms surveyed, assess the overall nature and extent of the practitioner's professional accreditation, experience levels and formal education. Information pertaining to the general organizational background aspects was provided by questions numbered 1, 2 and 7.

Question number 1 asked: "Are you a CPA in the State of California?" and requested the respondent to list any "Other accreditation (name)", that he or she may hold. One hundred percent (N=94) of those responding to this question answered "Yes" they were a CPA in the State of California. Of the 94 respondents, a total of four percent indicated that they held other accreditations in addition to the State of California certification to practice public accounting. Two individuals stated that they were also CPAs in the State of New York. One individual noted that he was also a CPA in the State of Nevada. None of the respondents listed accreditations other than that of a CPA. There were no references made to other professional certifications such as those for a registered professional engineer or licensed lawyer.

Question number 2 asked: "For what period of time has your firm or its predecessor been in business?" Answers to this question have been presented in summary fashion in Table IV-2 for the 94 respondents. Table IV-2 shows the range of total years; the number of respondents reporting the age of their practice; and the percentage of total sample reporting the specific range of practice age. Table IV-3 provides a comparison of practice age for sole proprietor CPA firms responding to question number 2 with that of practice ages determined by the Roper Organization, Inc. August, 1979, CPA survey of MAS practices. [Ref. 4] The

"Roper" survey sampled all sizes of practice units with the exception of the largest 50 firms. This survey mailed 2504 questionnaires to CPAs and produced 1,152 responses. Table IV-3 depicts the range of total years of practice and the percentage of total sample reporting. Responses to the author's "20 years up to 30" and "30 years or more" time categories listed in question number 2 have been combined into a range of "20 years or more." This combnation was made in order to facilitate comparison between the two surveys.

In question number 7, survey data were collected from respondents on the prevalence of degree fields and highest degree earned by sole proprietor CPA practitioners. Ninety-six percent (N=90) of those individuals responding to the survey indicated the type and level of degree. These responses have been summarized in Table IV-4. From the summary, it appears that the largest class of degrees held by the respondents is the bachelor's degrees, followed by the master's degrees and ending with the doctorates as the smallest class. Among the bachelor's degrees, the field of accounting was most predominant. Within the master's degrees, business (other than accounting) was reported the most. The field of law ranked highest in the doctorates' class.

In terms of total percentages of those surveyed, six percent indicated they did not have a formal college degree.

TABLE IV-2

- SOLE PROPRIETOR CPA FIRM SURVEY -

RANGE OF FIRM PRACTICE AGE

RANGE OF TIME	NO. OF RESPONSES	%OF TOTAL
Less than 5 years	19	20%
5 years up to 10 years	25	27%
10 years up to 20 years	21	22%
20 years up to 30 years	18	19%
30 years or more	11	12%

RANGE OF FIRM'S PRACTICE AGE: COMPARISON

OF AGGREGATE CPA ORGANIZATION TYPES

WITH STRICTLY SOLE PROPRIETOR CPA FIRMS

TABLE IV-3

RANGE OF TIME	% OF TOTAL	
	(ROPER SURVEY)	(AUTHOR'S SURVEY)
Less than 5 years	14%	20%
5 years up to 10	13%	27%
10 years up to 20	27%	22%
20 years or more	44%	31%

Conversely, 88 percent of the respondents had, as a minimum, a bachelor's degree. Degree levels for 51 percent surveyed were limited to a bachelor's degree; 29 percent had a bachelor's plus a master's degree; and 4 percent had received degrees up through the doctorate level. The various levels of degrees held by the respondents have been summarized in Table IV-5. In Table IV-6, the levels of degrees held by respondents are compared to the degree fields.

TABLE IV-4

- SOLE PROPRIETOR CPA FIRM SURVEY -

EDUCATIONAL BACKGROUND

DEGREE FIELD	*DEGREE LEVEL		
	B	M	D
-Business (accounting)	70	9	-
-Business (management)	2	4	-
-Business (financial)	1	9	-
-Business (marketing)	-	2	-
-Economics (other than industrial)	2	1	-
-Engineering (other than industrial)	1	-	-
-Liberal arts/Humanities	2	-	-
-Behavior sciences	2	-	1
-Other:			
. Physics	1	-	1
. German	1	-	-
. Nursing	1	-	-
. Political science	-	1	-
. Taxation	-	5	-
. Law	-	-	3

*B = bachelor's
M = master's
D = doctorate

TABLE IV-5

- SOLE PROPRIETOR CPA FIRM SURVEY -

LEVEL OF FORMAL DEGREES HELD

LEVEL OF DEGREE HELD	NO. OF RESPONSES	% OF TOTAL
-No college degree	6	6%
-Bachelors only	48	51%
-Bachelors & Masters	27	29%
-Bachelors, Masters and Doctorate	4	4%

TABLE IV-6

- SOLE PROPRIETOR CPA FIRM SURVEY -

NATURE OF FORMAL DEGREES HELD

DEGREE FIELD(B)	% OF TOTAL
-Business (accounting)	87%
-Business (management)	1%
-Economics	3%
-Engineering (other than industrial)	1%
-Liberal arts/humanities	3%
-Behavior Sciences	1%
-Other (Physics, German, & Nursing)	4%

DEGREE FIELD(M)	% OF TOTAL
-Business (accounting)	30%
-Business (management)	11%
-Business (financial)	33%
-Business (marketing)	7%
-Other (Political Science & Taxation)	19%

DEGREE FIELD(D)	% OF TOTAL
-Behavior Sciences	25%
-Other (Law)	75%

3. Organizational Structure Analysis

Questions numbered 3, 4, 5, 6 and 12 provided findings pertaining to the general organizational structure characteristics of those sole proprietor CPA firms surveyed. These findings assess basic structural considerations such as the degree of a firm's practice decentralization, the size of the professional staff, extent of both professional and non-professional staff dedicated to the provision of MAS, as well as the extent of MAS function separation within firm's organization.

Question number 3 asked: "How many separate offices does your firm maintain?" The respondents were permitted to indicate if they maintained "1" office; "2 or 3" offices; or "4 or more" offices. Ninety-Nine percent (N=93) of the total 94 survey respondents provided an answer to this question. Of those responding, 90 percent maintained only one office; 9 percent maintained two or three offices; and no sole practitioner responding maintained four or more offices. The Roper Organization Inc., MAS survey previously mentioned, asked their respondents to provide the same information concerning the number of offices maintained. This survey was not limited to sole proprietor CPA firms. For comparison sake, Table IV-7 provides a summary of results pertaining to number of offices maintained by those responding to the "Roper" survey as well as those responding to the author's sole proprietor CPA firm survey.

TABLE IV-7

RANGE OF OFFICES MAINTAINED: COMPARISON OF AGGREGATE CPA ORGANIZATION TYPES WITH STRICTLY SOLE PROPRIETOR CPA FIRMS

NO OF OFFICES MAINTAINED	% OF TOTAL	
	(ROPER SURVEY)	(AUTHOR'S SURVEY)
1	79%	90%
2 or 3	18%	9%
4 or more	2%	0%

Question number 4 asked: Approximately, how many individuals in your firm (in all offices) render professional services, of any kind (independent audits, income tax work, or management advisory services)?" Answers to this question was provided by 100 percent (N=94) of the survey respondents. These answers have been summarized in Table IV-8.

An assessment of the number of individuals actively engaged in delivery of MAS was obtained through question number 5. In this question, practitioners were asked: "How many individuals within your firm devote more than 50 percent of their productive time to management advisory services?" Again, 100 percent (N=94) responded to this

TABLE IV-8

- SOLE PROPRIETOR CPA FIRM SURVEY -

NUMBER OF PROFESSIONAL SERVICE PROVIDERS

WITHIN FIRM

NO. OF PROFESSIONAL SERVICE PROVIDERS	%OF TOTAL
1	37%
2-5	48%
6-10	9%
11-25	1%
26-30	-
31 or more	1%

question. A large majority (81 percent) of those responding indicated that no individual within the firm devotes more than 50 percent of his or her time to MAS. Nine-percent stated the one individual spends more than 50 percent of his/her time on MAS activities. Eleven-percent of those responding had 25 people involved with MAS more than 50 percent of their productive time. Table IV-9 shows the summary findings related to the number of people within the sole proprietor firm who spend more than half of their time on MAS functions.

Question number 6 was designed to assess the number of CPAs in the firm, excluding the principal of the firm, who were involved in MAS. Question number 6 specifically asked: "Of those individuals engaged in Management Advisory

TABLE IV-9

- SOLE PROPRIETOR CPA FIRM SURVEY -

NUMBER OF INDIVIDUALS INVOLVED IN MAS MORE THAN 50% OF THEIR PRODUCTIVE TIME

NO. INDIVIDUALS	%OF TOTAL
NONE	81%
1	9%
2-5	11%
6-10	-
11-25	-
26 or more	-

Services, how many are CPAs?" Sixty-nine percent (N=65) of those surveyed answered this question. Of those individuals providing an answer, 71 percent responded that one individual was a CPA; 22 percent indicated that two individuals were CPAs; and 6 percent indicated that three individuals other then themselves were CPAs involved in MAS. The last question dealing with organizational structure aspects was question number 12. This question asked: "Are management advisory services a separate function and a formal department in your firm or are they incidental to and an integral part of your overall service?" Ninety-five percent (N=89) of those surveyed responded, all of which said that MAS functions were "Part of overall service." Essentially, these firms did not differentiate MAS as a separate function.

4. Client Base Composition Analysis

Findings related to the typical client base composition of those sole proprietor CPA firms surveyed were provided by questions numbered 8 and 9. Question number 8 provided informaiton regarding the nature of client ownership types; that is, it assessed to what extent clients were organized as sole proprietorships, partnerships or publicly owned/closely held companies. Answers to this question are presented in summary fashion for 100 percent (N=94) of those surveyed. Table IV-10 shows a ranking of client ownership types by percent of total respondents who serve clients having a specific client ownership type; the degree or extent to which each type of client ownership type comprises the percent of the respondent's total client base; and the arithemetic mean plus the standard deviation for percent of clients within each ownership type.

Table IV-10 shows that 100 percent of the respondents surveyed deal with sole proprietorship clients and that on the average, this type of client comprises approximately 43 percent of their total client base. Ninety-five percent of those surveyed have clients who are organized as partnerships, which on the average, makes up approximately 17 percent of their total client base. Sixty-six percent of those responding indicated that publicly owned/closely held companies comprise on the average, approximately 26 percent of their total client population.

TABLE IV-10

- SOLE PROPRIETOR CPA FIRM SURVEY -

CLIENT BASE BY OWNERSHIP TYPE

RANKING	OWNERSHIP TYPE	% OF TOTAL CLIENT BASE	% OF TOTAL RESPONDING
1	Sole proprietorship----------	0 to 20%	(21%)
(100%)	mean = 43%	21 to 40%	(28%)
	std. deviation = 26%	41 to 60%	(20%)
		61 to 80%	(21%)
		81 to 100%	(9%)
2	Partnership----------	0 to 20%	(67%)
(95%)	mean = 17%	21 to 40%	(23%)
	std. deviation = 11%	41 to 60%	(4%)
		61 to 80%	(-)
		81 to 100%	(-)
3	Publicly owned closely		
(94%)	held company----------	0 to 20%	(41%)
	mean = 26%	21 to 40%	(11%)
	std. deviation = 24%	41 to 60%	(5%)
		61 to 80%	(6%)
		81 to 100%	(2%)

Question number 9 assessed the general size of the client population served by the sole proprietor CPA firms surveyed. Question number 9 asked "Of your total client base, please

indicate the relative size of these organizations from the viewpoint of their total operating revenues." The answers to this question have been summarized in Table IV-11. This summary shows a ranking of client size by percent of total respondents who serve clients within a specific operating revenue range; the extent to which each client operating revenue range comprises the percent of the respondent's total client base; and the arithmetic mean plus the standard deviation for percent of clients within each client operating revenue range.

As can be seen in Table IV-11, 85 percent of those surveyed deal with clients in the operating revenue range between $0 to 100,000 and that on the average, this size of client organization comprises approximately 28 percent of the CPA's total client base. Eighty-four percent of those surveyed have clients operating revenues in the $100,000 to $500,000 range, which on the average, accounts for approximately 30 percent of their total client base. Seventy-one percent of the respondents have clients with operating revenues ranging from $500,000 to $1,000,000 and on the average, this size client constitutes approximately 21 percent of the total client population. Sixty-nine percent of the CPA firms surveyed indicated that they deal with client firms having operating revenues of $1,000,000 to $10,000,000 and on the average, this size client makes up approximately 22 percent of the total client base. Twenty-eight percent

noted that they handle clients with operating revenues over $10,000,000 and that on the average this size of client comprises 12 percent of their total client population. Question number 9 assessed only client size in terms of operating revenues. Data pertaining to other client size measurement factors such as, the number of people employed, units produced, customers servered, etc., were not addressed in the questionnaire.

5. Range of Professional Services Analysis

Findings regarding the general range of the sole proprietor CPA firm's professional services; the extent of the public accounting firms total service specialization; the scope of MAS activities; the MAS billing methods used; the degree of MAS activity specialization; the nature of MAS activity specialization and; the assessment of the practitioner's qualifications relative to provision of MAS were provided by questions numbered 10, 11, 13, 19, 20 and 29.

Question number 10 asked: "Roughly what percentage of your firms total professional time is accounted for by each of the following functions below (Percentages should add to 100%)?" Those surveyed were asked to note the percentage of their time dedicated to; "Audits," "Taxes," "Accounting Services (maintaining accounting records and preparation of financial statements)", "Management Advisory Services" and "Other Services." Eighty-one percent (N=76) of those surveyed answered question number 10. The total question

TABLE IV-11

- SOLE PROPRIETOR CPA FIRM SURVEY -

CLIENT BASE BY SIZE

RANKING	CLIENT OPERATING REVENUES	% OF TOTAL CLIENT BASE	% OF TOTAL RESPONDING
1	$0 TO $100,000.	0 to 20%	(44%)
(85%)	mean = 28%	21 to 40%	(21%)
	std. deviation = 25%	41 to 60%	(7%)
		61 to 80%	(5%)
		81 to 100%	(7%)
2	$100,000. TO $500,000.	0 to 20%	(28%)
(84%)	mean = 31%	21 to 40%	(36%)
	std. deviation = 18%	41 to 60%	(15%)
		61 to 80%	(5%)
		81 to 100%	(-)
3	$500,000. TO $1,000,000.	0 to 20%	(40%)
(71%)	mean = 21%	21 to 40%	(22%)
	std. deviation = 14%	41 to 60%	(7%)
		61 to 80%	(1%)
		81 to 100%	(-)
4	$1,000,000. TO $10,000,000	0 to 20%	(50%)
(69%)	mean = 22%	21 to 40%	(12%)
	std. deviation = 21%	41 to 60%	(2%)
		61 to 80%	(2%)
		81 to 100%	(3%)
5	over $10,000,000	0 to 20%	(26%)
(28%)	mean = 12%	21 to 40%	(2%)
	std. deviation = 6%	41 to 60%	(-)
		61 to 80%	(-)
		81 to 100%	(-)

responses have been averaged for each function and depicted in Table IV-11. The five functions have been ranked according to the percentages of total responses and compared to responses to a similiar question in the "Roper" Survey. The function of "Other Services" has not been broken down by specific functional areas.

TABLE IV-12

- SOLE PROPRIETOR CPA FIRM SURVEY -

PERCENTAGE OF TIME DEDICATED TO SERVICE FUNCTION

RANKING	FUNCTION	% OF TOTAL (ROPER SURVEY)	% OF TOTAL (AUTHOR'S SURVEY)
4	Audits	(25%)	(6%)
2	Taxes	(30%)	(37%)
1	Accounting Services (maintaining accounting records, preparation of financial statements	(30%)	(39%)
3	Management Advisory Services	(10%)	(13%)
5	Other Services	(-)	(5%)

Question number 11 presented findings related to the scope of total MAS activities for those firms responding to the survey. This question asked the individual to "Please indicate those component service areas of management advisory service which your firm becomes actively involved with by placing a check mark beside any of the 45 listed component areas which were applicable to his/her situation.

The 45 component areas listed were the same as those designated as significant by 40 percent or more firms responding to a MAS body of knowledge and examination (MASBOKE) task forces of the American Institute of Certified Public Accountants survey conducted in July 1974. Unlike the author's survey, the MASBOKE study surveyed all categories of CPA firms (i.e. professional corporations, partnerships, etc.), some with full staffs who specialize in MAS. Ninety percent (N=95) responded to question number 11. The answers to this question have been summarized in Table IV-13.

Question number 13 asked those firms surveyed to indicate if their clients are billed for MAS as a separate charge or as part of the total services provided without a separate identification. This same question was also asked of those firms surveyed by the Roper Organization, Inc. in August, 1974. [Ref. 4] Ninety percent (N=85) of those responding to survey answered question number 13. The answers have been summarized and compared to the findings provided by the "Roper" survey. This summary has been shown in Table IV-14. Thirty-four percent of those surveyed by the author's questionnaire billed for MAS separately as opposed to thrity-eight percent of the "Roper" survey which billed MAS as a separate charge. Fifty-six percent of those answering the author's questionnaire billed for MAS as part of the total service charge. Sixty percent of the "Roper" survey

TABLE IV-13

- SOLE PROPRIETOR CPA FIRM SURVEY -

VARIETY OF MAS PERFORMED

*%	COMPONENT	%	COMPONENT
38%	accounts payable	40%	inventory control
41%	accounts receivable	53%	lease or buy analysis
		40%	long-range financial planning
45%	acquisitions, mergers, and divestments	24%	long-range planning
67%	annual financial planning and budgeting	7%	management audit
16%	applications software development	27%	management controls and report
16%	billing and credit	2%	order entry
61%	cash management	16%	organization structure and policy
33%	clerical systems and forms	33%	payroll and labor distribution
29%	clerical work methods and simplification	9%	performance reporting
22%	computer operations evaluations	12%	policy and procedure manuals
33%	cost accounting and allocation	24%	product profitability
5%	cost standards	24%	property
2%	customer order process-	13%	report design and installation
7%	data communications	38%	return on investment studies
24%	economic and feasibility studies	22%	revenue accounting
17%	equipment evaluation	20%	sales forecasting, demand plans,
57%	financial reporting	15%	software evaluation
43%	financing, selecting sources of capital	26%	systems and procedures design, analysis and documentation (EDP and manual)
16%	form design and installation	28%	systems and procedures installations (EDP and manual
15%	fund accounting	11%	systems test and conver-
63%	general accounting		
6%	goals and objectives studies		

respondents indicated that MAS charges were not separated and included in the total accounting services bill.

TABLE VI-14

MAS BILLING METHOD: COMPARISON OF AGGREGATE CPA ORGANIZATIONS TYPES WITH STRICTLY SOLE PROPRIETOR CPA FIRMS

MAS BILLING METHOD:	% OF TOTAL	
	(ROPER SURVEY)	(AUTHOR'S SURVEY)
As a seperate charge	38%	31%
As part of total service without separate identification	60%	59%

Question number 19 asked: "Does your firm tend to specialize in certain areas of Management Advisory Services?" Ninety percent (N=93) of those surveyed responded to this question. Of those responding, 24 percent said they did specialize in certain areas of MAS. Seventy-four percent responded that their firm did not specialize in certain areas of MAS.

Question 20 was related to the above question. It asked: "If the answer to the above question is marked 'Yes,' please briefly indicate below, those areas of your firm's specialization." Twenty-five percent (N=24) of the surveyed

firms provided responses, which have been summarized in Table 4-15.

TABLE IV-15

- SOLE PROPRIETOR CPA FIRM SURVEY -

AREAS OF MAS ACTIVITY SPECIALIZATION

SPECIALIZATION	NO. OF RESPONSES	% OF TOTAL
Advertising agencies	1	1%
Agricultural concerns	1	1%
Assett management	1	1%
Business valuation	2	2%
Banking industry	1	1%
Budgeting	1	1%
Cash planning/management	4	4%
Cost analysis	1	1%
Data processing	1	1%
Entertainment industry	2	2%
Estate planning	1	1%
FCPA audits	1	1%
Financing	2	2%
Investment planning	2	2%
Long-range financial planning	4	4%
Medical groups	1	1%
Memorial parks	1	1%
Mergers/acquisitions	2	2%
Mortgages	1	1%
Profit Planning	2	2%
Real Estate Planning	2	2%
Restaurant operations	1	1%
Small business/ professional services	1	1%
Systems/procedures	2	2%
Tax planning	1	1%

In Table IV-15 the nature of each specialization is indicated, along with the number responding to a specific

specialization and the percentage of the total sample reporting their MAS specialization(s).

Question number 29 was the last question related to an assessment of the range of professional services. It asked: "Based on your education and professional experience, do you feel that CPAs are in a better position to provide Management Advisory Services than any other professional 'management consultant'?" One-hundred percent (N-94) of those surveyed answered this question. Forty-seven percent answered 'Yes' CPAs are in a better position to provide MAS than any other professional 'management consultant.' Seven percent said 'No', CPAs were not in a better position. Forty-six percent indicated that CPAs 'Maybe' are in a better position to provide MAS to their clients.

6. MAS Activity Growth Rate Analysis

The findings related to the sole proprietor CPA firm's MAS activity growth rate assessed both past and projected MAS growth; the relative desire to increase the range of MAS; the practitioner's desire to increase his or her client base through MAS; the extent of factors limiting MAS expansion; and the desire for firms to specialize in MAS engagements. Data pertaining to the area of MAS activity growth was gathered through survey questions numbered 14, 15, 16, 17, 18 and 28.

Beginning with question number 14, those firms surveyed were asked to: "Please indicate how Management Advisory

Beginning with question number 14, those firms surveyed were asked to: "Please indicate how Management Advisory Services have changed as a percentage of your firms total business over the last five years." Table IV-16 summarizes the responses from 92 percent (N=87) of the total firms surveyed and who answered question number 14. The ranges of increase have been shown along with both the number of respondents and percentage of total sample reporting a historical MAS activity rate increase.

TABLE IV-16

- SOLE PROPRIETOR CPA FIRM SURVEY -

PERCENTAGE OF TOTAL CPA BUSINESS GROWTH

(OVER LAST 5 YEARS) WHICH RESULTED FROM

MAS ENGAGEMENTS

% INCREASE	NO. OF RESPONSES	% OF TOTAL
0 to 5% increase	(43)	46%
6 to 10%	(16)	17%
11 to 20%	(18)	19%
21 to 50%	(7)	7%
Greater than 50%	(3)	3%

Question number 15 looked at the expected MAS growth rate for the firms surveyed. Question number 15 asked: "As a

percentage of your firm's total business, at what rate do you expect Management Advisory Services to grow (assuming you do not anticipate on overall decline)?" Ninety percent (N=85) of those surveyed answered this question. The responses have been summarized and displayed in Table IV-17. The ranges of expected MAS activity increase have been shown, togethe wtih both the number of respondents, and percentage of total sample reporting an expected MAS activity increase. Respondents to the "Roper" survey indicated that on the average MAS activity would grow at an annual rate of 10%. This percentage can be used for comparison of information in both Table IV-16 and IV-17.

TABLE IV-17

- SOLE PROPRIETOR CPA FIRM SURVEY -

PROJECT MAS ACTIVITY GROWTH RATE

% INCREASE	NO. OF RESPONSES	% OF TOTAL
0 to 5% increase	(32)	34%
6 to 10%	(26)	28%
11 to 20%	(15)	16%
21 to 50%	(11)	12%
Greater than 50%	(-)	-

Question number 16 asked the firms surveyed to indicate their relative desire to increase the range of MAS (i.e.

increase the variety of services provided to their clients). Ninety-four percent (N=88) of those responding to the survey answered this question. The findings provided by this question have been summarized in Table IV-18. This table shows a relative ranking of responses on a continium scale numbered 1 through 10. The number 1 represents no desire on the part of those responding to increase the range of MAS. At the opposite end of the scale, a number 10 is assigned to reflect an extremely high desire for those respondents to increase the range of MAS. The average rating for all respondents was approximately 4.59 with a standard deviation of 2.65. Percentage of the total sample has been provided along with each numerical rank.

TABLE IV-18

- SOLE PROPRIETOR CPA FIRM SURVEY -

RELATIVE DESIRE TO INCREASE RANGE OF MAS

No desire to increase range									Extremely high desire to increase range of services
1	2	3	4	5	6	7	8	9	10
(11%)	(3%)	(17%)	(9%)	(15%)	(10%)	(10%)	(13%)	(1%)	(7%)

Mean = 4.59 (i.e. average ranking)

Std. deviation = 2.65

Question number 17 asked those survey to expres their relative desire to increase their firm's present client base (i.e. number of clients) through the offering of MAS. Ninety-eight percent (N=92) of those firms responding to the questionnaire answered this question. Their answers have been summarized in Table IV-19. It shows, like the previous question, a relative ranking of responses on a continium scale numbered 1 through 10. the number 1 represents no desire on the part of those responding to increase their client base through the offering of MAS. Number 10, at the opposite end of the scale, is intended to represent an extremely high desire by those respondents to increase their client base through the offering of MAS. The average rating for all respondents was approximately 4.44 with a standard

TABLE IV-19

- SOLE PROPRIETOR CPA FIRM SURVEY -

RELATIVE DESIRE TO INCREASE CLIENT BASE

THROUGH THE OFFERING OF MAS

No desire to increase client base									Extremely high desire to increase client base
1	2	3	4	5	6	7	8	9	10
(11%)	(6%)	(17%)	(11%)	(20%)	(5%)	(9%)	(11%)	(2%)	(6%)

Mean = 4.44 (i.e. average ranking)

Std. deviation = 2.65

deviation of 2.59. Like the previous table, the percentage of the total sample has been provided in Table IV-19, along with each numerical rank.

In question number 18, those surveyed were asked to indicate one or more factors which might be perceived as factors that may limit a CPA firm's ability to expand into MAS or to increase the current range of management services. Ninety-eight percent (N=92) of those responding to the survey answered this question. The summarized answers are provided in Table IV-20. The five reasons pre-selected and made part of question number 18 have been shown as well as other reasons identified by the respondents. A percentage of the total respondents has been assigned to each limiting factor along with the number of individuals responding. percentages have not been shown for each specific "other" reason; however, the number responding has been placed beside each factor noted by respondents.

Question number 28 asked: "In your opinion, should sole proprietor CPA firms be adequately prepared to handle a wide range of Management Advisory Services or limit their activities to specific specialized areas within the general management field?" Seventy-three percent (N=69) answered the portion of the question concerning the wide range of MAS. Of those responding, 49 said "YES", and 27 percent said "No", as to whether CPAs should be prepared to deal with a wide range of MAS. Seventy-six (N=71) percent of the

individuals responding to the question answered the portion dealing with specific specialized areas within the general management field? Fifty percent responding to this question segment said "YES" and 23 said "No", as to whether CPAs should limit their MAS activities to very specific and

TABLE IV-20

- SOLE PROPRIETOR CPA FIRM SURVEY -

FACTORS LIMITING MAS GROWTH

LIMITING FACTOR	NO. OF RESPONDENTS	% OF TOTAL
Lack of adequate internal staff	(62)	66%
Insufficient capital and facilities	(13)	14%
Inadequate client demand for Management Advisory Services	(31)	33%
Insufficient staff training/education	(24)	26%
Incompatibility with "independence" and/or professional ethics	(8)	9%
Other reason(s) (please specify)	(17)	18%

(8) Practitioner has no desire to not expand; (3) Practitioner wants to retire from practice; (1) Practitioner finds it difficult to "sell" clients on MAS; (1) Practitioner feels MAS offers a potential high risk/potential liability; (1) Practitioner feels clients lack understanding of MAS benefits; and (1) Practitioner feels MAS results in a conflict of interest.

specialized areas. The question did not permit the respondents to state the basis for the manner in which they chose to answer the question.

7. Client MAS Demand Analysis

Findings regarding the degree of the sole practitioner's client demand for MAS were assessed by questions numbered 21 and 22. Question number 21 asked: "In your opinion, is there a problem of recognition by your client organizations of the need for supplemental management advice?" Ninety-eight percent (N=92) of the respondents answered this question. Twenty-eight percent said "YES", 27 percent said "NO", and 46 percent said that "sometimes" their clients face a problem related to the recognition of the need for supplemental management advice.

Question number 22 asked: "If you firm offers Management Advisory Service (regardless of extent or area(s) of specialization), is it necessary for you to "educate" your clients regarding your skills and the benefits that can be derived if they retain your firm for management consultant needs?" Ninety-four percent (N=88%) surveyed responded to this question. Fifty-six percent answered "YES", 14 percent answered "NO", and 23 percent answered that "Sometimes" it was necessary for them to educate their clients regarding the CPA's skills and the benefits to be derived from MAS.

8. Services Advertising Analysis

Findings which dealt with advertising professional service considerations were provided by questions numbered 23, 24 and 25. These three questions addressed specific advertising aspects such as: the nature of advertising efforts by sole proprietor CPA firms; the impact of advertising on total services offered by the public accountant; and the impact of advertising on strictly MAS activities.

Question number 23 asked if the CPA firm adertises for performance of: Independent Audit Work; Tax Services; Accounting Services (maintaining accounting records and preparing financial statements); Management Advisory Services; and/or other services? The response rate for this question varied among the types of services. One hundred percent (N=94) of those surveyed responded to at least one portion of the question. The responses have been summarized in Table IV-21. Specific areas of service work have been listed with the accompanying number of individuals responding, along with the percent of total respondents for each service work classification.

Question number 24 asked those firms who indicated in question number 23 that they did advertise their services, to answer if they had found advertising to be beneficial from the viewpoint of increasing the overall office workload. Of those responding to the question (N=19), 47 percent said "YES", 16 percent answered "NO", and 37 percent

said that they "Cannot determine" the benefits resulting from advertising.

TABLE IV-21

- SOLE PROPRIETOR CPA FIRM SURVEY -

EXTENT OF SERVICES ADVERTISING

TYPE OF SERVICE	*%	NR		%	NR
Independent Audit Work--------Yes	3%	(3)	No	94%	(88)
Tax Services------------------Yes	10%	(9)	No	88%	(83)
Accounting Services (maintining accounting records, preparing financial statements----------Yes	10%	(9)	No	90%	(85)
Management Advisory Services--Yes	6%	(6)	No	94%	(88)
Other Services----------------Yes	3%	(3)	No	95%	(89)

* % = PERCENT OF TOTAL RESPONDENTS

NR = NUMBER OF RESPONDENTS TO QUESTION

Question number 25 asked: "In your opinion, can advertising be used as an effective means of helping a CPA practitioner expand his or her Management Advisory Service activities?" Ninety-five percent (N=89) of the survey respondents answered this question. Of those responding, 48 percent answered "YES", 12 percent said "NO" and 25 percent indicated that they "Cannot determine" if advertising can be used as an effective means of expanding MAS activities.

9. Client Referral Analysis

The questionnaire survey provided findings related to the relative desire of sole proprietor CPA firms to refer their clients for MAS needs which the public accounting firm may not itself be able to satisfy. Findings germane to client referral were provided by questions numbered 26 and 27.

Question number 26 asked: "If your clients have Management Advisory Service needs of a nature which may be unique or beyond your area of expertise, have or would you refer these clients to: other CPA firms which possess the desired level of expertise?; other professionals, colleges/ universities, or equipment suppliers?" Ninety-eight percent (N=92) of the respondents answered the first part of the question. Eighty-nine percent (N=84)of the respondents answered to the second part. Of those answering the first part of the question, 69 percent said "YES", 12 percent said "NO" and 17 percent answered that "Sometimes" they refer clients to other CPA firms which possess the desired level of expertise. Fifty-nine percent answering the second part of the question said "YES", six percent said "NO" and 27 percent indicated that "Sometimes" they refer clients to other professionals, colleges/universities, or equipment suppliers.

Question number 27 asked: "If your firm does not normally refer clients for Management Advisory needs, please

indicate a general reason for not doing so." Eleven percent (N=10) of the survey respondents answered this question. The answers have been summarized in Table IV-22. In this table, the specific reasons for prcatitioners not referring clients have been shown along with the number and percent of total respondents for each reason listed. numbers.

TABLE IV-22

- SOLE PROPRIETOR CPA FIRM SURVEY -

REASONS GIVE FOR NOT REFERRING CLIENTS

WITH MAS NEEDS

REASONS	NO. OF RESPONSES	% OF TOTAL
-Practitioner can satisfy all of clients' MAS needs.	(6)	7%
-Practitioner has had no requests for MAS from clients.	(2)	2%
-Practitioner has "lost" his or her clients after an MAS referral.	(1)	1%
-Practitioner is not aware of services which other may have to offer his clients.	(1)	1%

C. SURVEY INTERVIEW FINDINGS

The discussion which follows, concentrates on the general findings provided by interviews conducted by the author with selected sole proprietor CPA firm practitioners as well as accounting academicians. Findings provided by these interviews are general. Meaningful statistical inferences can

not be drawn from the interview data. The interview data can; however, provide the reader with a "feel" for how some practitioners and academicians view certain aspects of MAS activity. The discussion of the interview findings will begin first, with those findings provided by the practitioner interviews, and followed by a presentation of findings generated by the academician interviews.

1. Selected Practitioner Interview Findings

As was noted in the previous chapter, the general nature of questions asked of practitioners during the interviews was directed towards facilitation of a discussion. These interviews were generally short in duration and free form in nature. The general questions asked practitioners, along with summarized responses, have been provided below:

Question:

Do issues related to "professional ethics" and the CPA's requirement for "independence" influence the choice to offer and/or limit MAS activity? If so, what are the central issues and to what degree do they limit MAS activity?

Answer:

Those practitioners interviewed did not view anything unethical. Performance of MAS engagements was compared to the CPAs accomplishment of independent audit work. Practitioners felt the issue of ethics would not cause an operational problem if public accountants pursued MAS engagements with the same objectivity and independence

employed during audits. Those interviewed generally agreed that if a practitioner follows the MAS practice standards adopted by the AICPA the question of ethics becomes mute. These same individuals thought that ethical considerations are only a problem if the CPA becomes involved in the clients' decision-making process. Most of those responding also felt that the issues related to ethics can be minimized if the CPAs do not attempt to perform MAS engagements of a nature that the accountant may not be trained to deal with.

Question:

Are CPA practitioners adequately prepared by formal education or work experience to handle a wide range of MAS functions? If not, where can educational or work experience learning efforts be strengthened?

Answer:

Most respondents felt that graduates from an accredited college or university, who has graduated from school within the last 10-15 years, probably qualify to handle most MAS engagements. They felt that older graduates may not have by formal education, the general knowledge related to organizational theory, EDP systems, etc. Others felt; however, that it was the "older" practitioner who was more qualified to provide MAS because of his or her experience with practical experience with "real" management systems. Most agreed that it was the "older" practitioners

who "knew" their clients' operation the best. Some felt that this knowledge of their clients operations was a prerequisite for delivery of effective MAS. Other practitioners of all ages disagreed with this point.

Question:

Do sole proprietor CPA firms really "know" their client organizations sufficiently enough for them to be in a position to offer a wide range of MAS or should the scope of services be limited to issues relevant to accountant's understanding of the clients' operations?

Answer:

Most of those who answered this question stated "YES", CPA firms really do "know" their clients well enough for them to provide a wide range of MAS. They all agreed that a significant amount of knowledge regarding their client's operation is gained through the accomplishment of more traditional accounting functions such as setting up accounting records, performing audits, tax work, etc. One practitioner said that "his clients talk to him about their operations in the same manner they do with their lawyers", and from these discussions "a CPA gains considerable insight into the problems facing an organization." There were mixed reactions to the question of limiting the scope of MAS to issues pertaining to the accountants understanding of the clients operation. Some said the CPA should limit the scope of services. Other's contended that most accountant's have

a good understanding general of business systems and their operating environments. Accordingly, they see the accountant as one who can adapt and provide positive results regardless of his/her understanding of the client's operations.

Question:

Do sole proprietor CPA firms differ with respect to how they define or perceive what constitutes MAS? That is, does the term MAS have a common and finite meaning between CPA practitioners?

Answer:

Of those interviewed, most agreed that the term MAS has a definite meaning among professionals; however, the term was not associated by most to a finite listing of functions or business areas. Some stated that "they have been performing MAS for years but did not refer to these services as such." These services were viewed as strictly accounting functions.

Question:

Assuming that MAS included services other than audits, tax work, maintaining accounting records and preparation of financial statements, are CPAs willing to expand their activities into management advisory areas? If not, what are the reasons why?

Answer:

There were mixed reactions to this question. Some practitioners contended their desire to expand their services was constrained by resources (i.e. people, equipment, time, etc.). Others said that their practice "keep them busy enough" and therefore, they have no desire to expand. Still others did see an appreciable client demand which may require them to expand their range of current services into MAS activities.

Question:

Is there a general willingness for sole proprietor CPA firms to refer their clients for management advisory needs? If not, what are the major reasons for not doing so?

Answer:

Most who answered this question could not confirm that there was a "general willingness" among practitioners to refer clients. Some said that they have referred clients to other CPA firms and have had clients referred to them. It was impossible to determine from the interviews the exact extent of client referral. Major reasons given for not referring clients were that: the practitioner could satisfy all of the client's service demands; the practitioner does not refer clients to other CPAs but to "specialists" such as those dealing with EDP, personnel, etc.; and a few were "afraid" of losing clients to other CPA firms.

Question:

Have professional accounting organizations (AICPA, California Society of CPAs, etc.) played an acceptable role in MAS standards setting. If not, how can standards be improved?

Answer:

In general, most felt that the professional accounting organizations played an acceptable role in MAS standards. A few said the standards were too limiting or not specific enough, especially in the area of independence and ethics considerations.

2. Accounting Academician Interview Findings

Findings obtained from the author's interviews with academicians in the accounting field, assessed general education issues related to the preparation of the accounting student for his/her role in MAS activities. Responses to the questions were subjective and broad in nature. They do however, in the view of the author, provide the reader with some meaningful insight into current MAS educational trends, as well as the academicians perceptions of the accountants' MAS qualifications. The questions asked of academicians along with their summarized responses has been provided below. For brevity purposes, all responses have been reported in a generalized fashion.

Question:

Currently, do public accounting curriculums adequately prepare students, at the bachelor degree level, to assume a meaningful professional role in MAS? Do accounting curriculums at the masters degree level adequately prepare students for MAS roles? If curriculums at either level lack adequacy, what improvements should be made?

Answer:

Most interviewed felt quite certain that students are currently being adequately prepared at the Bachelors and Masters level to engage in MAS. The respondents generally agreed the student of accounting is exposed to a more theoretical framework at the graduate level and consequently, Master degreed people might be somewhat more sophisticated in their MAS activities. All agreed however, that graduates with Bachelor degrees are also capable to deal with MAS engagements after a few years of on the job training and seminar courses in MAS specialization areas.

Question:

Are courses which are related to MAS, such as Management Sciences, Electronic data processing, Personnel, etc., offered to students on a purely "elective" basis or are they "built in" to the standard accounting curriculum?

Answer:

Most respondents stated that to a certain extent, all courses are related to MAS. Essentially, undergraduate

programs are more pragmatic and some MAS courses are offered as electives. Conversely there are also some MAS subject matter courses included in the core curriculums as well. Some undergraduate schools permit the student who wants to "consult" as well as practice traditional accounting to gear his other program towards that goal. Other respondents indicated that the "core" accounting courses assimilates MAS specialities into the basic knowledge factors given all accounting students. As an example, students taking an internal control and auditing course are now normally exposed to EDP systems in the process.

Question:

Are students at the Bachelors or Master degree levels provided specific knowledge pertaining to how the CPA profession operates, how one might conduct on MAS assignment and what MAS standards and procedures are currently followed by practitioners?

Answer:

In general, most answered that students are exposed to knowledge pertaining to how a CPA firm operates, how one might conduct a MAS engagement and what standards and procedures are currently followed by practitioners. There were some academicians who stated that the exposure to this type of information is brief and geared towards questions asked in the CPA licensing examination. These same individuals stated that indepth knowledge of "professional

practice" procedures and standards is "picked up on the job."

Question:

Are individuals who graduate from an accounting program better qualified to move into MAS areas than say individuals who graduate from a general business or general management program?

Answer:

Most of those interviewed said that the accounting school graduates are probably better qualified to move into MAS areas than say individuals who graduate from other business related programs. The respondents contend that most organizations benefit the most from advice that provide a direct and positive impact on the entity's financial position. The CPA, according to some interviewed, is in the best position to provide this kind of input. They also stated that some types of management "generalists" get too involved with how an organizaiton or its problems "look on paper" and accordingly ignore whether that picture means financial stability for the organization. A small minority of those interviewed felt the accounting graduate was not in a better position to deal with MAS because of his or her tendency to specialize in primarily financial areas without much knowledge of other management considerations.

Questions:

Should colleges and universities attempt to develop programs which allow students to specialize in a specific area of MAS or should these programs be designed to produce MAS generalists?

Answer:

The majority of those interviewed stated that scholastic efforts should be generalized at the undergraduate level and more specialized at the graduate level. Most answering also stated that accountants tend to serve on the whole, highly technological and complex organizations that change constantly in response to their operating environments. Therefore, most suggested that accounting educational programs should turn out flexible generalists.

Question:

From an academic institution perspective, is there a general problem with the definition of MAS? Is there a general consensus regarding what should be included in the scope of MAS?

Answer:

Those answering this question felt that each institution has its own operative definition for MAS, just as they do for traditional accounting practice. Most saw, as a critical factor, to remain consistent in the application of both within the institution.

D. SUMMARY

This chapter has presented the reader with findings provided by both the author developed sole proprietor CPA firm questionnaire and the indepth interviews of selected practitioners and accounting academicians. The findings were presented, discussed, compared and analyzed. Provided also, was a discussion of significant differences in key questions asked of the survey respondents and which were similiar to questions asked in previous studies. These key differences were highlighted for comparison sake. The emphasis of this chapter was limited to an analysis of the compiled data without reference to possible inferences.

In the next chapter, the author attempts to draw conclusions and make recommendations based upon the findings provided by the survey sampling tools. These conclusions have been related directly to the sole proprietor's current MAS practices and implications for future expansion in this particular service area.

V. CONCLUSIONS AND RECOMMENDATIONS

A. GENERAL

The purpose of this thesis, as previously stated in the introduction was to assess current Management Advisory Services (MAS) practices of sole proprietor Certified Public Accounting (CPA) firms for the determination of recommendations regarding the direction and the degree of evolution that MAS expansion efforts by these practice units should take in order to satisfy client demands. The assessment of MAS practices became the author's research objective and in its formulation, two fundamental assumptions were made:

*Assumption Regarding Demand. The author's report assumed that clients of accounting firms, with few exceptions, have a need for some degree of external and professional management advice.

*Assumption Regarding Abilities and Desires. The author also assumed that the public accounting profession is capable and desires to satisfy client demand for management consultative advice.

It was noted in the introduction that the author limited the focus of the research objective to sole proprietor CPA firms because it was thought that this category of public accounting firm appeared to servcie principally smaller sized client organizations, which because of their limited staff/resources could benefit the most from MAS. Sole proprietor CPA firms have also demonstrated only a moderate MAS

activity growth rate as compared to larger firms and comprise the majority segment of firms within the accounting profession. Accordingly, the sole proprietor accounting firm probably could stand to strengthen the accounting profession recognition the most.

To help the reader appreciate the significance of the research objective, the author provided a background discussion pertaining to general MAS considerations. Specifically the author reviewed topics pertaining to the organization of the CPA firm in general as well as, the overall scope of MAS activities. Special emphasis was placed upon those elements integral to considerations given by CPAs regarding expansion of the current range of services. A review of the domain of MAS was presented from the perspective of how the public acocuntant can expand his or her activities to accommodate external management advisory needs of clients. A statement regarding the general background of management consulting was provided, followed by an analysis of the CPAs qualifications relative to rendering MAS and the common methodology/techniques used by qualified CPAs in the delivery of MAS.

A discussion directed towards a review of the research methodology employed in support of the central research objective was provided by the author for the sake of informing the reader of the various data sampling tools used. Essentially, the author provided a comprehensive overview of

the methodology used to determine the willingess of sole proprietor CPA firms to expand current MAS activities and establishment of resultant recommendations pertinent to the possible future direction and evaluation of these activities. The author developed survey questionnaire used to gather data relative to the extent and nature of sole practitioner MAS engagements was presented along with a discussion of questions asked during indepth interviews with practitioners and accounting academicians.

Following the discussion related to the research methods used, the author presented the actual research findings. Information gathered by the sampling techniques employed was presented, discussed, compared and analyzed. Significant differences in key questions, asked of the survey respondents and which were similiar to questions asked in previous studies, were highlighted for the sake of comparison. Conclusions and recommendations based upon the data obtained were not discussed up to this point in the research paper and will now be discussed in this chapter.

B. CONCLUSIONS

The author will now attempt to make certain inferences regarding issues and problems raised by ther research findings. The conclusions have been presented in a format which follows the areas of general interest noted in Table III-2 of Chapter III.

1. Organization Background

a. Professional Accreditation

The professional accreditation of sole proprietor CPAs is generally limited to a license to practice public accounting within the state he or she resides in. A limited number of sole practitioners maintain a CPA's license in more than one state. It is very unlikely that a sole practitioner would hold a professional accreditation in any field other than public accounting. At present, there exists no "special" accreditation requirement for providers of MAS. This may be unfortunate, in that there is no reasonable assurance that the client's interest will be protected from possibly incompetent MAS providers. That is not to say a CPAs license does not afford the client a certain degree of protection. It simply means that at present, a client has no generally accepted means of assessing a CPA's qualifications relative specific MAS functions.

b. Age of Firm's Practice

In general, the average business life expectancy for the total population of CPA firms is in excess of 15 years. This apparent reasonable practice stability offers clients certain advantages. Clients can be reasonably assured that the sole proprietor CPA firm which is providing them with accounting and/or MAS sercies is not going to "fold-up". The average life of a sole practitioner's operation is not as long as it would be say for CPA partnership

or professional public accounting firms. This difference; however, should not be of too much concern to clients. A large number of sole practitioner firms tend to evolve over time into partnerships and corporations. This evolution, according to the literature, tends to be compatable with the expected growth patterns of most successful businesses.

c. Nature of Proprietors Education

Professionals affiliated with larger, non-sole proprietor accounting firms, tend to have varied educational and experience backgrounds. Larger CPA firms tend to employ full time MAS professionals, many of which have master's degrees in areas other than accounting, have business experience outside of public accounting, and are not CPAs. (Ref. 3) This experience/educational background consideration, may in part, allow larger firms to offer a broader range of MAS. Sole practitioners conversely, tend to have experience/educational backgrounds which are limited to areas of accounting. As a total segment, sole practitioners are predominatly bachelor degreed individuals as compared to larger CPA firm MAS staffs which are predominatly master degreed people. The more narrowly specialized sole proprietors may not be in a position, by themselves and without further education, to offer a broad range of MAS. The sole proprietor may be most effective if he or she choses to specialize in certain areas of MAS.

2. Organizational Structure

a. Degree of Practice Decentralization

Larger MAS practice units are normally decentralized by local offices or regions and usually a central office provides staff services and information. These decentralized offices may share specialists with each other on an as needed basis. For the larger firms, decentralization makes it possible to develop more intimate client relationships. (Ref.3) Conversely, sole proprietor CPA firms tend to be very centralized and normally maintain only one office. With respect to their centralized organization, they stand a good chance to develop intimate client relationships similiar to their larger, decentralized counterparts. In the opinion of the author, development of an intimate client organization relationship is a prerequisite for effective MAS engagements.

b. Size of Professional Staff

Sole proprietor CPA firms tend to limit the size of their professional service staff to approximately three individuals on the average. The author's survey of sole practitioners revealed that almost 40 percent of them are "one person" offices. Approximately 50 percent of them have no more than five individuals engaged in the provision of professional services. About ten percent of those firms surveyed said they had up to ten individuals involved in professional services. The general number of employees may

contribute to the extent or nature of sole practitioners MAS engagements.

c. Extent of Staff Dedicated to MAS

Related to the ability of the sole proprietor's to provide MAS may not only be limited to the number of total staff employed by the firm but also the emphasis placed on management consultative activities. At least 79 percent of those sole proprietor firms surveyed do not employ individuals who spend more than 50 percent of their time on MAS functions. The reasons for this apparent lack of interest will be discussed later in the conclusion portion of this chapter.

d. Degree of MAS Function Separation

It can be stated, with a some degree of certainty, that sole proprietor public acocunting firms do not differentiate MAS functions within their firms. Most larger public accounting partnerships and professional corporations do separate the MAS function. Because of the limited staff size, it may be advantageous for sole proprietors not to make an MAS functional separation. It could be argued; however, that a functional separation of accounting and MAS activities might reduce the potential CPA ethics and/or independence problems.

3. Client Base Composition

a. Nature of Client Ownership

Sole proprietor CPA firms tend to service clients whose organizations are structured in terms of sole proprietorships, partnerships and closely held corporations. To some extent, the sole practitioner deals with publically owned companies; however, on the average 75 percent of the clients population will be sole proprietors or partnerships. This situation should facilitate development of an expertise related to problems inherent in only those types of organizations. Sole proprietor and partnership organizations, in the view of the author, would tend to be less complex and operate in more narrow business environments.

b. Size of Client Ownership Type

All but a few sole practitioner accountants deal with what may be considered small business concerns. The literature suggests that small sized organizations could probably benefit the most from management consulting and because of limited staff resources this advice must come from outside the organizational structure. It seems to the author, given the relative size of most clients, that the sole proprietor CPA could stand to capture the greatest share of the potential MAS market.

4. Range of Professional Services

a. Extent of Total Firm Service Specialization

When compared to the total professional accounting population, sole proprietor CPA firms dedicate less time to audits and more time towards tax work, accounting services, MAS and other related business services. The sole practitioner's service specialization probably reflects the nature and size of his/her clients. Essentially, the sole practitioner would be expected to do less audit work because publicly owned corporations do not account for a great percentage of the firms total client base. A larger total percentage of "smaller clients" would also mean a greater accounting, management advisory, tax and other service workload. Larger clients would be expected to perform these functions, to a certain degree, with "in-house" staff forces.

b. Scope of Total Firm MAS Activities

The scope of MAS among sole practitioners is varied. Virtually all those services performed by larger MAS practice units are also carried out by the total population of sole proprietor CPAs. The major difference is that sole practitioners tend to concentrate on a relative few MAS areas. That is, out of the total 45 MAS functions which 40 percent of the larger MAS practice units said they performed, only 11 were engaged in by sole practitioners. These 45 functions were applicable to all sized clients, not just

large ones. Essentially, the sole practitioner does not offer as wide a range of MAS as his or her large practice unit colleagues do.

c. MAS Billing Method

Approximately 60 percent of those sole proprietor CPA firms surveyed do not separate MAS charges. They are included as part of the total service charges. By not separating the charges, clients may not be aware of the degree of MAS performed and/or practitioners may not be highlighting the important nature of MAS. It may also be the case that practitioners are providing MAS to some extent without knowledge of doing so. From the standpoint of assessing the effectiveness and efficiency in delivery of services, it seems prudent to the author, for MAS charges to be accounted for and billed separately.

d. Degree of MAS Specialization

Approximately 75 percent of those sole proprietor CPA firms surveyed stated that they <u>did not</u> specialize in certain areas of MAS. Rather than specialize, the survey data seems to suggest that the total sole proprietor CPA population as a group, concentrates on a limited number of MAS areas which they all have in common. The sole practitioner may not chose to specialize in a particular area of MAS for fear of doing a disservice to his or her clients by not offering a broader range of services, even though, this

range of service may be limited in relation to what a larger CPA could offer.

e. Nature of MAS Specialization

Of those sole practitioners which do specialize, there is a tendency for some of them to gear their specialization towards a particular industry vice a particular management functional area. On the other hand, over half of those who indicated they do specialize by concentrating on areas normally associated within the definition of MAS. The majority of these firms specialized in areas related to strategic or long range planning such as long range budget preparation, real estate planning, financing, cash investment planning etc. These CPAs may have "sold" their analytical planning abilities, something which the literature suggests small firms often need help with.

5. MAS Activity Growth Rate

a. Past MAS Growth Rate

According to the survey findings, sole practitioners have, increased the percentage of their overall business through the offering of MAS. This past trend seems to suggest that clients have become more aware of the need for MAS and that some CPAs have chosen to satisfy their demand.

b. Projected MAS Growth Rate

The findings suggest that sole proprietor public accounting firms agree that MAS activities will increase

over the next five years. Their opinions tends to be consistant with the findings of larger firm surveys, such as the "Roper" study, which concluded that accounting professionals felt that MAS activities would expand at an approximate annual rate of 10 percent. The projected growth rate, in the opinion of the author seems to indicate that sole practitioners are anticipating increased MAS demands to be placed upon them.

c. Relative Desire to Increase Range of MAS

Based upon the findings, it appears that CPA firms have only a moderate desire to increase the present "range" or variety of specific MAS areas. There certainly is no general indication of an extremely high desire to increase the scope of services. The reason(s) for this apparent lack of strong enthusiasm to increase the range of MAS activity, in the opinon of the author, may be due to "limiting factors" which were noted by those firms surveyed. The nature of these factors is discussed later in the conclusions section.

d. Relative Desire to Increase Client Base through MAS

As with the issue of service range, there appears to be no extremely high desire on the part of sole practitioners to increase their client base (i.e. number of clients) through offering of MAS. There is only a moderate desire to use MAS as a vehicle for increasing the number of

clients. The degree of desire, similiar to that associated with increasing the range of services, may be influenced by limiting factors noted by the survey respondents and which are discussed below.

e. Extent of Factors Limiting MAS Activity Expansion

Of those responding to the survey, the largest number indicated that the lack of internal staff was the prime reason for not expanding their MAS activities. Over 64 percent felt staffing was the single greatest limiting factor. Thirty-five percent felt the greatest limiting factor was a lack of client demand for MAS. Viewing lack of adequate client demand as a limiting factor to MAS expansion seems to be in the opinon of the author, inconsistant with the overall consensus established by this survey and others which suggested MAS activity would expand in the forthcoming years. Twenty-two percent of those survey respondents felt inadequate staff training/education was the prime limiting MAS growth factor. This response may suggest, in the opinion of the author, that some practitioners feel that they are not qualified to deal with a wider range of services. If this opinion can be substanciated, then the emphasis currently placed on accounting curriculums may have to be modified and/or accountants might have to be more actively involved in "continuing education" programs.

f. Relative Desire to Specialize in MAS

Over half those responding to the questionnaire as well as those individuals interviewed by the author believe that sole proprietor CPAs should be prepared to deal with a wide range of MAS activities while at the same time limiting the actual practice of MAS to very specific and specialized areas. What these findings might suggest, is that the sole practitioner feels he or she can only be effective in the delivery of MAS if the firm concentrates its knowledge factors and professional resources on very specialized services, concurrent with maintaining on overall appreciation of management advisory principles. Medical doctors have for sometime followed the same approach. As an example, because a general medical practitioner's resources are limited, coupled with the fact that certain medical disorders are often complex to diagnose and treat, it would be very ineffective for this individual to deal with a specialized problem. A general medical practitioner would probably not want to treat a serious neurolgical disorder. The patient in all probability would be referred to a specialist, like a neurosurgeon. A neurosurgeon conversely, would not be effective if he or she lacked an overall understanding of general medicne.

6. Client Demand for MAS

a. Degree of Client MAS Recognition

There appears to be a divergent set of opinions among sole practitioners concerning the client's recognition of the need for MAS. Twenty-seven percent of the respondents felt that there was a problem of client recognition, 46 percent said that sometimes there was a recognition problem, where as only 27 percent said that there was not a problem. The author can only conclude that based upon the small percentage that said "No" there was not a problem of recognition, that CPAs probably need to educate their clients concerning the potential benefits to be derived from MAS.

b. Degree of Client Education Efforts

The author's conclusion regarding the possible need to "educate" accounting clients seems to have been confirmed by responses from approximately 60 of the questionnaire respondents who answered "YES" it is necessary to "educate" clients regarding the CPA's skills and benefits to be derived from MAS. Based upon the responses, it appears that if a sole practitioner wants to expand his or her MAS activities, consideration must be given to a service marketing campaign.

7. Advertising of Services

a. Nature of Professional Service Advertising

From the findings, there appears to be no strong emphasis placed upon advertising of any particular sole practitioner service. Ninety percent of those sole proprietor CPA firms responding to the survey indicated that they do not advertise for any of the services they perform. This lack of interest in services advertising may be attributed to the fact that it has only been in the past few years that public accounting firms have been permitted by their professional societies to use public solicitation as a means of attracting additional business. The change on advertising restrictions was brought about by public law not from within the accounting profession. Accordingly, accountants may feel "morally" constrained and chose not to advertise because of ethics considerations.

b. Impact of Professional Services Advertising on Total Services

Even though on the average approximately 90 percent of the respondent sole practitioners do not advertise, at least 50 percent of them thought it would be beneficial from the standpoint of increasing the overall office workload. From this, the author can only conclude that total accounting services will be advertised to a greater extent in the future, assuming of course, that accountants are

interested in increasing the extent of their current practice.

c. Impact of Professional Service Advertising on MAS Activities

Almost 50 percent of those respondents also agreed that advertising could help a practitioner expand his or her MAS activities. Although 35 percent said that they cannot determine if advertising would help a CPA expand MAS activities, it seems to the author that if clients need to be "educated" regarding possible service benefits, then advertising may be one means of helping to achieve that objective.

8. Client Referral

a. Relative Desire to Refer Clients

Over half of those respondents surveyed said that they refer their clients with MAS needs which may be unique or beyond the CPA firms area of expertise. It seems to the author, that the percentage of those who refer clients for needs that they cannot deal with should be near one-hundred percent. A client should not be deprived of receiving help that may enhance the organization's financial or operating position. As a rule, medical doctors do not hesitate to refer patients for services beyond the level of the physicians expertise. Sole proprietor CPAs, like doctors, are professional service providers and should as a matter of routine refer clients for appropriate help when needed.

That is not to say that certain sole proprietor accounting firms cannot handle all of a clients MAS needs. The author's point is that based upon the reserach findings, most sole practitioners are not equipped to deal with the total range of MAS services. Because of this, it seems only reasonable that clients be referred when necessary.

C. RECOMMENDATIONS

In view of the research findings provided by this thesis work as well as the author's conclusions drawn from the analyzed data, the following recommendations are provided for the various parties which interact with the professional public accountanting MAS process:

1. For the Sole Proprietor CPA
    a. Plan to deal with an increased client demand for MAS.
    b. Attempt to specialize in certain MAS areas.
    c. Refer clients to others when the need arises.
    d. Provide clients with insight into potential MAS benefits.
    f. Keep abreast of current professional MAS standards and trends.
    g. Explore the use of professional service advertising.

h. Establish long-range MAS plans and objectives for the CPA firm. Use them to measure the degree of effectiveness.

2. For the Educational Institutions

   a. Continue to provide a general accunting educational program at the bachelors degree level with limited opportunity for selected student specialization.

   b. Provide specialized educational programs at the masters degree level with emphasis on both the theoretical and practical considerations of MAS.

   c. Become or continue to be actively involved in a continuing education program for practitioners.

3. For the Professional Accounting Societies

   a. Continue to establish and promulgate MAS practice standards.

   b. Establish an accreditation program for MAS specialties.

   c. Monitor overall MAS quality as delivered by CPAs.

   d. Establish clear cut rules on referrals between CPA firms.

APPENDIX A

SIGNIFICANT MANAGEMENT ADVISORY SERVICE ACTIVITIES

The following is quoted from the publication, Management Advisory Services by CPAs, authored by edward L. Summers and Kenneth E. Knight, published by the American Institute of Certified Public Accountants, New York, 1976.

SIGNIFICANT SERVICES

accounts payable
accounts receivable
acquisitions, mergers and divestments
annual financial planning and budgeting
applications software development
billing and credit
cash management
clerical systems and forms
clerical work methods and simplification
computer operations evaluations
cost accounting and allocation
cost standards
customer order processing
data communications
economic and feasibility studies
equipment evaluation
financial reporting
financing, selecting sources of capital
form design and installation
fund accounting
general accounting
goals and objectives studies
information flow studies
information systems
inventory control
lease or buy analysis
long-range financial planning
long range planning
management audit
management controls and report
order entry
organization structure and policy
payroll and labor distribution
performance reporting
policy and procedure manuals
product profitability
property
report design and installation
responsibility reporting
return on investment studies
sales analysis
sales forecasting, demand plans
software evaluation
systems and procedures design, analysis and documentation (EDP and manual)
systems and procedures installations (EDP and manual)
systems test and conversion preparation

APPENDIX B

Knowledge concepts inventories

General knowledge

(Short explanations and references are representative and not exhaustive)

Summary Descriptions	Level 1 References	Level 2 References
1. *How the CPA Profession Operates*—The CPA profession is a major part of the frame of reference in which MAS practitioners operate. CPA firms deliver a range of services of which MAS is a part. This range of services is influenced by the history of the CPA profession, its major activities, and pertinent regulatory bodies. This area does not include technical knowledge of auditing or tax procedures or how to operate an accounting practice.		
a. *Major Characteristics of the CPA Profession*—The CPA profession's attributes, functions, services responsibilities, policies, and ethics.		
(1) *Functions and services*—Auditing, tax, accounting, MAS services and their history.	"A Description of the Professional Practice of Certified Public Accountants." Statements in Quotes, *The Journal of Accountancy*, Dec. 1966, p. 61.	*The Rise of the Accounting Profession*, Carey (AICPA, 1970). Vol. 1, Chs. 1,2,11; Vol. 2, Chs. 7,8,9,16,18.
(2) *Legal liability*—Special legal obligations and duties of the CPA as auditor.	*Auditing: Principles & Procedures*, Holmes & Overmyer (Irwin, 1971), Ch. 3.	*SEC Accounting Practice and Procedure*, 3d ed., Rappaport (Ronald, 1972). Chs. 26,27,28.
(3) *CPA profession ethics*—Due care, independence, competence, and other matters of ethical concern.	*AICPA Professional Standards: Ethics, Bylaws* (as of Sept. 1, 1974) (AICPA, 1974), Entire text.	Same citation as level 1.
b. *CPA Profession Policy Making Processes*—The MAS professional should understand how issues are considered and resolved in the CPA profession.		
(1) *State societies and AICPA*—Policy formation, ethics-enforcement, information services.	No citation at level 1.	*The Accounting Profession*, Buckley & Buckley (Melville, 1974).

Summary Descriptions	Level 1 References	Level 2 References
(2) *Public (government) agencies*—State accounting boards, SEC, FTC, and others and how they affect accounting practices.	No citation at level 1.	*The Accounting Profession*, Buckley & Buckley (Melville: 1974).
c. *MAS Role and Standards in CPA Practice*—AICPA statements in respect to operating an MAS practice and the standards by which the practice should be conducted. These standards apply to the MAS practitioner himself, to specific engagements, and to the MAS practice as a whole—all within the CPA profession context.		
(1) *Role of management services in the CPA firm*—Relation of MAS to other CPA firm services, ability and need to render management services, all as determinants of role and scope of MAS appropriate to a particular firm.	*Management Services by Accounting Firms*, Arnstein (Ronald, 1967), Ch. 1.	*The Accounting Profession: Where Is It Headed?* Carey (AICPA, 1962), Ch. 6.
(2) *MAS practice standards*—Personal characteristics, competence, due care, client benefit, understanding with client, planning supervision and control, sufficient relevant data, communication of engagement results to client.	No citation at level 1.	*Statements on Management Advisory Services*, MAS Executive Committee (AICPA, 1974) Ch. 1.
2. *How Business Operates and Is Managed*—The operation and management of organizations and organization functions such as marketing, personnel, finance, accounting, and operations; related areas such as economics, business law, and environmental factors. These concepts are included to the extent they would be found in the core of a better MBA program accredited by the American Association of Collegiate Schools of Business (AACSB) (this same knowledge may also be available from other sources, including AACSB-accredited BBA programs).		This section—How Business Operates and Is Managed—is defined as consisting of concepts included in an MBA core. Thus, there are *no* level 2 references.
a. *Management (Theory and Practice)*—The basic responsibilities and processes of management; the essential principles of management; the basic issues confronted in a managerial context.		
(1) *Managerial responsibility descriptions*—In the major functional and program areas of business.	*Principles of Management: An Analysis of Managerial Functions*, 5th ed., Koontz & O'Donnell (McGraw-Hill, 1972). Chs. 1,2,3,4.	
(2) *Principles of management*—Management by exception, span of control, defining responsibility commensurate with authority, operating according to a plan, etc.	*Organization Behavior and the Practice of Management*, Hampton (Scott Foresman, 1973). Chs. 3,4,6,7.	
(3) *Practical issues*—Decentralization, delegation of authority, employee participation and morale, technology change, redefining objectives, etc.	*The Arts of Top Management*, Mann (McGraw-Hill, 1971), Chs. 2,6,8,9,11,12.	
(4) *Production*—Use of management and engineering principles in operation and control of manufacturing, processing, and production systems.	*Production-Inventory Systems*, Buffa & Taubert (Irwin, 1972). Chs. 1-3.	
b. *Systems*—Use of systems analysis and terminology to describe general organizational functions.		

Summary Descriptions	Level 1 References	Level 2 References
(1) *Theory and terminology*—Requisite variety, control; systems classification and common elements (e.g., open vs. closed systems; feedback), etc.	*Information Systems: Theory and Practice*, Burch & Strater (Hamilton, 1974). Chs. 1-4.	
(2) *Systems description of organization functions*—Emphasis on effects of information transfer and systems interaction and control.	*Systems Analysis*, Daniels & Yeates (SRA, 1971). Chs. 1,7,8,10-13.	
c. *Finance and Accounting*—Financing forms for private and public sector organizations, role of the finance concepts and uses of accounting and financial information in business.		
(1) *Finance function form and responsibilities*—Planning and control, liquid assets management, availability of capital as required to achieve organization objectives.	*Financial Management and Policy*, 3d ed., Van Horne (Prentice-Hall, 1974). Chs. 4-8,16-19,20-25.	
(2) *Financing forms for private and public sector organizations*—Equity and long- and short-term debt; taxing authority; special problems of partnerships and proprietorships in raising and maintaining capital.	*Financial Management and Policy*, 3d ed., Van Horne (Prentice-Hall, 1974). Chs. 9-15.	
(3) *Basic accounting principles*—The major accounting concepts such as period matching of income and expense; uses and interpretation of accounting statements; role of accounting in management information systems, etc.	*Intermediate Accounting*, 3d ed., Meigs, Mosich, Johnson & Keller (McGraw-Hill, 1974). Entire text.	
(4) *Basic managerial accounting*—Concepts of budgeting standard costs, responsibility reporting, variance analysis, cost-volume profit analysis, and cost reporting and control.	*Managerial Accounting*, 3d ed., Moore & Jaedicke (South-Western, 1972). Chs. 9-15.	
d. *Computers*—The significance of computers in business and government and the basic guidelines for use of computers by management.		
(1) *Elementary computer systems skills*—Use of timesharing facilities; ability to flowchart simple calculations, use simple computer software, and write short user-oriented language programs.	*Information Systems: Technology, Economics, Applications*, Mader & Hagin (SRA, 1974). Chs. 1-14.	
(2) *Capabilities and characteristics of a simple computer system*—Input and output media, memory (internal and external types), and central processing unit; business data processing, its major applications.	*Introduction to the Computer*, Fuori (Prentice-Hall, 1973). Parts I, II, III.	
e. *Marketing*—Selling and distribution functions in business, including marketing planning and research, selling, advertising, and administration.		
(1) *Marketing function description*—Organization, major responsibilities, planning, and control.	*Marketing Management: Analysis, Planning and Control*, 2d ed., Kotler (Prentice-Hall, 1972). Chs. 1-6, 9, 20-24.	

Summary Descriptions	Level 1 References	Level 2 References
(2) *Major marketing decisions*—Selection of distribution channels, market identification, brand image; product-line control, advertising policies, use of credit as a marketing tool.	*Marketing Management: Analysis, Planning and Control*, 2d ed., Kotler (Prentice-Hall, 1972). Chs. 12–19.	
f. *Personnel*—Assurance of adequate human resources to carry out organization objectives; evaluating organization policies for compatibility with sound personnel practice.		
(1) *Personnel function description*—Organization, major responsibilities, planning and control.	*Personnel Management*, Jucius (Irwin, 1971), Chs. 1,5,8,9,25.	
(2) *Major personnel decisions*—Hiring, training, job evaluation, salary adjustment, labor relations, basic concepts and objectives for productivity improvement.	*Contemporary Problems in Personnel: Readings for the Seventies*, Hamner & Schmidt (St. Clair, 1974). Entire text.	
g. *Management Science*—Elementary quantitative aids for describing and analyzing information.		
(1) *Basic calculus and linear algebra*—Elementary concepts of integral calculus, vector and matrix notation and operations.	*Elementary Matrix Algebra*, 3d ed., Hohn (Macmillan, 1973). Entire text. and *The Calculus: A Genetic Approach*, Toeplitz (Chicago, 1963). Chs. 1-3.	
(2) *Elementary statistics and probability*—Tests of hypotheses and statistical decision models, etc.	*Statistics for Modern Business Decisions*, Lapin (Harcourt, Brace, Jovanovich, 1973). Entire text.	
(3) *Concepts of quantitative decision models*—Linear programming, inventory economic order quantity, waiting lines, and simulation.	*Quantitative Analysis for Business Decisions*, 4th ed., Bierman, Bonini & Hauseman (Irwin, 1973). Entire text.	
h. *Economics*—Basic principles for analyzing and understanding the economic dimension of human behavior, the characteristics of markets, and interaction of public and private sectors.		
(1) *Macro and micro economics*—Profit maximization under varying competitive assumptions; operation of the monetary system; the role of the federal budget in national economic policy.	*Economics*, 9th ed., Samuelson (McGraw-Hill, 1973). Entire text.	
(2) *Managerial economics*—Factor productivity and profit maximization; economic models of common decisions such as new product introduction.	*Microeconomic Models*, Kogiku (Harper & Row, 1971). Chs. 1,2,3,5,7–10.	
i. *Business Law*—Basic principles of social behavior; regulation by law.		

Summary Descriptions	Level 1 References	Level 2 References
(1) *Law relating to businesses*—The legal environment of business and other organizations; common situations requiring expert legal counsel.	*Principles of Business Law*, Corley & Robert (Prentice-Hall, 1975). Chs. 1-6, 25-27, 32-39.	
(2) *Law relating to the professional*—Legal responsibilities, rights, and liabilities of the consultant; importance of ethics, competence, and independence.	*Accountant's Office Manual and Practice Guide*, Zweig (Prentice-Hall, 1969). Ch. 15.	
j. *Behavioral Sciences*—Principles of motivation, influence, authority; psychology of work organizations; effect of information in modifying behavior.		
(1) *Individual and small group behavior*—Interactions of individuals with their environment and other individuals.	*Interpersonal Behavior in Small Groups*, Olshe (Prentice-Hall, 1973). Entire text.	
(2) *Organization behavior*—Interactions of organization segments, and of organizations with other organizations.	*Organization and Management: A Systems Approach*, Kast & Rosenzweig (McGraw-Hill, 1974) Chs. 1,2,3,4,6,8.	
3. *Unique Characteristics of Public Sector Entities*—Organizing, financing, controlling, and operating a not-for-profit institution or government program; public vs. private sector allocation of scarce resources; economic welfare and public choice; collective decision-making in the political process; growth and productivity in the public sector.	*Financing Modern Government*, Anderson (Houghton Mifflin, 1973). Preface & Chs. 1-9. and *Analysis of Public Systems*, Drake (MIT Press, 1972). Entire text.	Same citation as level 1.
4. *Communication*—Communication proficiency is essential to the consulting process, in which MAS professionals transfer knowledge, promote change, and otherwise utilize information's effects on other persons to achieve agreed-on beneficial objectives. This proficiency is required in collecting input, developing recommendations, and later in implementing these recommendations. In addition, communications proficiency is essential in practice management and development.	(No citations at level 1 because these skills and knowledge are not acquired at the 5-year university program level.)	
a. *Written Communication*—Essential for engagement-related documentation such as proposals, letters of understanding, survey instruments, working papers, reports to clients; for practice-related documentation such as skills descriptions, staff training and evaluation, and client industry file preparation.		*An Introduction to Logic & the Scientific Method*, Cohen & Nagel (Harcourt, Brace, 1936). Ch. 1. *Effective Business Report Writing*, 3d ed., Brown (Prentice-Hall, 1973). Chs. 1,3,4,7,8. *Documentation Guides for Administration of Management Advisory Services Engagements*, Staff Study (AICPA, 1971). Entire text.
b. *Oral Communication*—Essential for interviewing client personnel, exchanging data with client and professional staff, running meetings, and generally transmitting and receiving accurate images of facts, feelings, questions, and conclusions.		

Summary Descriptions	Level 1 References	Level 2 References
(1) *Interviewing*—Systematically eliciting specific information from others through a planned or structured interrogation process.		*Effective Business Report Writing*, 3d ed., Brown (Prentice-Hall, 1973). Pp. 211-219.
(2) *Conversation*—Mutual unstructured exchange of substantive information where the exchange is necessary to an MAS process.		*Communicating in Business*, Lindauer (Macmillan, 1974). Chs. 1,5,6.
(3) *Oral presentations*		
5. *MAS Practice and Engagement Characteristics*—Categorization of MAS services and practices; MAS analytical approach to an engagement: conduct of MAS engagements; management of an MAS practice.	(No citations at level 1 because these skills and knowledge are not acquired at the 5-year university program level.)	
a. *Classifications of MAS Services and Practices*—Why clients seek MAS services; types of MAS practices; delivery modes of MAS services.		
(1) *Survey and action engagements*—Distinctions between engagements that end with a report to a client (survey) and engagements that also include implementation (action).		*Management Services Handbook*, Walley (Business Books, 1973). Chs. 3,5.
(2) *Two-party vs. three-party engagements*—Distinctions between engagements affecting only the client vs. those also affecting a known or unknown third party outside the client organization.		*Professional Practices in Management Consulting*, (ACME, 1966). Chs. 4-8.
(3) *Systems or decision nature of engagement*—Distinctions between engagements to find ways of accomplishing a given function in an ongoing or routine way (systems) and engagements that address unique, nonrecurring situations (decision).		*Management Services Handbook*, Walley (Business Books, 1973). Chs. 4,5,7.
(4) *Practice unit size*—Relationship between practice unit size and practitioner characteristics.		*Professional Practices in Management Consulting*, (ACME, 1966). Chs. 1-3.
(5) *MAS service delivery modes*—Distinctions between engagements with relatively little written documentation or reporting (informal) and engagements requiring extensive documentation and written reporting (formal). Factors that are considered are risk of incomplete or misinterpreted data or client misunderstanding of recommendations; time period before recommendations are needed; experience in working with the client; applicability of pre-existing company and/or industry knowledge; anticipated professional time input and technical skills requirements.		*How to Get the Best Results from Management Consultants*, Shay (ACME, 1974). Entire text.
b. *MAS Analytic Approach to Engagements*—In all types of engagements, structured analytical approaches are necessary, although these approaches vary somewhat with the type of engagement, they are essentially similar. These approaches are		

Summary Descriptions	Level 1 References	Level 2 References
detailed here in summary form for engagements dealing with systems and with decision subject matter.		
(1) *Systems approach*—Analyze existing procedures; determine legal, information, control, and operational requirements a new system must satisfy; prepare preliminary designs for the new system; prepare operational designs, including flowcharts, procedures, and documentation descriptions; install new system; modify as necessary for satisfactory operations.		*Process Consultation: Its Role in Organization Development*, Schein (Addison-Wesley, 1969). Entire text.
(2) *Decision approach*—Analyze existing decision variables and relationships; determine criteria of acceptable recommendations; develop alternative recommendations; carefully evaluate recommendations for acceptability; implement the best alternative recommendation, and modify as necessary to achieve acceptable results.		*Accountant's Guide to Profitable Management Advisory Services*, Whiteside (Prentice-Hall, 1969). Chs. 7,8,9,28.
c. *Conduct of MAS Engagements*—Most MAS engagements move through the following phases or stages.		
(1) *Engagement proposal and planning*—What to put in proposal and letter of understanding; tasks or phases of the engagement; estimated timing for achieving tasks or phases; allocation of professional staff to tasks or phases; estimating engagement costs.		*Documentation Guides for Administration of Management Advisory Services Engagements*, Staff Study (AICPA, 1971). Ch. 1.
(2) *Engagement management*—Interactions with client personnel; adherence to the engagement plan; punctuality; progress reports, knowledge of current status of the engagement; working in the client's office; unproductive time; control of out-of-pocket expenses; evaluation of staff on engagement; keeping working papers.		*Guidelines for Administration of the Management Advisory Services Practice*, Staff Study (AICPA, 1968). Chs. 2,4,5,6.
(3) *Final report and engagement evaluation*—Final reporting; documentation and support for conclusions; oral and written reports; engagement performance and significance evaluation—to firm and to client.		*Documentation Guides for Administration of Management Advisory Services Engagements*, Staff Study (AICPA, 1971). Ch. 5.
d. *Management of MAS Practice*—Adaptation of management principles to the MAS practice in CPA firms.		
(1) *Practice development*—Enhancing the CPA firm reputation for effective service; developing the practitioner's professional stature.		*The Successful Professional Practice*, Levoy (Prentice-Hall, 1970). Entire text.
(2) *Practice management*—Staff hiring and training; compensation and responsibility reviews; quality assurance programs; internal systems and procedures.		*Personal Qualification of Management Consultants*, (ACME, 1966). Entire text. *Management Services Handbook*, Walley (Business Books, 1973). Ch. 4.

Executive planning, implementation, and control

(Short explanations and references are representative and not exhaustive)

Summary Descriptions	Level 1 References	Level 2 References
1. *Executive Management and Function*—History of management; major managerial philosophies and schools of thought; responsibilities, processes, and functions of top management within an organization.		
a. *History, Philosophy, and Principles of Management*—Basic foundations of management as seen by significant students of management of the past century; industrial revolution and resulting organizations; emergence of scientific management; the corporation as a social organization; motivational theories; organizational structures and theory.	*The Evolution of Management Thought*, Wren (Ronald, 1972). Parts I,II,III.	*The Functions of the Executive*, Barnard (Harvard, 1968). Entire text. *Classics in Management*, Merrill (AMA, 1970). Sections dealing with Taylor, Gantt, Fayol, Mayo, McGregor.
b. *Contemporary Management Thought*—Fundamental approach to management as expressed by major current writers and managers; theory *X* and theory *Y*; systems theories of management; management by objectives; organizational behavior.	*The Evolution of Management Thought*, Wren (Ronald, 1972). Part IV.	*Managing for Results*, Drucker (Harper & Row, 1964). Entire text. *The Will to Manage*, Bower (McGraw-Hill, 1966). Entire text.
c. *The Major Functions of Management*—Planning organizing, staffing, implementing, and controlling.	*Management: Theory and Practice*, 2d ed., Dale (McGraw-Hill, 1969). Part 3.	Same citation as level 1.
2. *Strategic Management Planning and Control*—Determination of an organization's managerial requirements including goals and objectives; planning to achieve goals and objectives; markets in which to participate; organization structure and major functions; technology and capabilities; geographical location.		
a. *Identification of Goals and Objectives*—Structure of national and world commerce; structure of markets; dynamics of change.		
(1) *National and world commerce and markets*—Major human, energy, and raw materials sources and uses; trends in industrial, military, and consumer goods and service consumption; trade and commerce relationships in economic activity worldwide.	No citation at level 1.	*Business Week*, Last 18 mos.
(2) *Dynamics of change*—How individuals and organizations respond to economic and other incentives, risks, and rewards.	No citation at level 1.	*Changing Organizational Behavior*, Bartlett & Kayser (Prentice-Hall, 1973). Entire text.
(3) *Regulation of commerce*—Broad outlines of government regulation; national and international incentives and disincentives; cartels; subsidies; international finance.	*Public Policies Toward Business*, 4th ed., Wilcox (Irwin, 1971). Entire text.	*Management of the Multinationals*, Sethi & Holton (Free Press, 1974). Parts I,II,IV,V.
(4) *Goals and objectives formulation*—Writing internally consistent, achievable, and appropriate statements of goals and objectives.	No citation at level 1.	*The Achieving Enterprise*, Christopher (AMACOM, 1974). Entire text.

Summary Descriptions	Level 1 References	Level 2 References
b. *Identification of Policies to Achieve Goals and Objectives*—Use of economic and technological forecasting; long-range planning; feasibility analysis; organization structure; and other major areas of policy formulation.		
(1) *Economic and technological forecasting*—Significance and use of quantitative and qualitative economic and technological forecasting techniques; integration of econometric models with corporate planning models.	No citation at level 1.	*An Executive's Guide to Forecasting*, Chambers, Mullick & Smith (Wiley-Interscience, 1974). Entire text.
(2) *Long-range planning and feasibility analysis*—Elaboration of goals and objectives into business policy; feasibility analysis of policies to determine acceptability on legal, economic, environmental, and humanitarian grounds.	No citation at level 1.	*Top Management Planning*, Steiner (Macmillan, 1969). Chs. 1-10.
(3) *Capital expenditures*—Identification and evaluation of possible broad expenditure categories and capital additions programs; postexpenditure audit.	No citation at level 1.	*The Management of Capital Expenditures*, Murdick & Demming (McGraw-Hill, 1968). Entire text.
(4) *Financial structure*—Alternative debt and equity capital structures; comparative evaluation of their relative effectiveness in meeting anticipated capital requirements.	No citation at level 1.	*Strategy of Corporate Financing*, Hutchison (Hawthorn Books, 1971). Chs. 1,2,6,7,8,9,10,21.
c. *Organization Structure and Change*—Alternative approaches to assignment of responsibility; delegation of authority and accountability; evaluation of organization alternatives such as centralized, decentralized, horizontal, or vertical integration; national or multinational; determine structure most likely to promote organization goals; special aspects of organizational change.	No citation at level 1.	*Organization*, Dale (AMA, 1967). Chs. 1-10. *Organization Renewal*, Lippit (Appleton-Century-Crofts, 1969). Entire text.
d. *Policy Evaluation*—Review of policy as distinct from review of operations; criteria of policy effectiveness; policy change processes; direction, coordination and motivation of policy processes by the chief executive.	No citation at level 1.	*Strategy and Policy Formation: An Integrative Approach*, Paine & Naumes (Saunders, 1974). Entire text.
3. *Management Operations and Evaluation*—Organizing, staffing, planning, and conducting overall top management operations in the framework of established policy; review of operations results; exercise of managerial authority to affect operations.		
a. *Operations Planning*—Establishment of short-term plans; identifying current alternatives.		
(1) *Short-term planning*—Developing short-term plans, goals, objectives consistent with policies and environment; utilizing short-run forecasts and corporate resources; respecting managerial desires and corporate flexibility.	No citation at level 1.	*Top Management Planning*, Steiner (Macmillan, 1969). Ch. 11.
(2) *Operations alternatives*—Identifying and evaluating current alternatives; tools for decision making; planning in specific functional areas such as	No citation at level 1.	*Top Management Planning*, Steiner (Macmillan, 1969). Chs. 12-23

Summary Descriptions	Level 1 References	Level 2 References
marketing, production, research and development, and finance.		
b. *Operations Organizing and Staffing*—Assignment of authority and responsibility at operating management levels.		
(1) *Position descriptions*—Assembling or identifying the workable combinations of responsibility and authority for managerial positions necessary to carry out plans; improving descriptions of existing positions; preparing mission statements for use in evaluating positions or controlling reorganization.	No citation at level 1.	*Defining the Manager's Job*, Bennett (AMA, 1958). Part 2 & Appendix. *Top Management Organization in Divisionalized Companies*, Stieglitz & Janger (Conference Board, 1965). Appendix A.
(2) *Analysis of management talent*—Assessment of management potential and executive abilities as a basis for specific managerial assignments.	No citation at level 1.	*Performance Appraisal in Management*, Williams (Heinemann, 1972). Entire text.
(3) *Assignment of responsibility*—Matching individuals and positions; evaluation of executive performance.	No citation at level 1.	*Assessing Corporate Talent: A Key to Managerial Manpower Planning*, Finkle & Jones (Wiley-Interscience, 1970). Entire text.
c. *Operations Implementation and Control*—Direction, coordination, and motivation of action by the principal executives; managerial control; evaluation of results; managerial actions to alter plans or improve performance.		
(1) *Implementation*—Direction, coordination, and conduct of operations through managerial supervision, decision-making, and intervention.	No citation at level 1.	*Managerial Behavior*, Sayles (McGraw-Hill, 1964). Entire text.
(2) *Control*—Evaluation and control of operations through systems, procedures, information reports, and managerial appraisal.	*Planning and Control Systems: A Framework for Analysis*, Anthony (Harvard, 1965). Entire text.	*A Total Systems Approach to Management Control*, Stokes (AMA, 1968). Entire text. *Managing By - and With - Objectives*, Wikstrom (Conference Board, 1969). Entire text.
4. *Important Applications of Executive Planning, Implementation, and Control*—The concepts found uniquely associated with these applications as necessary for a complete understanding of this body of knowledge.		
a. *Merger, Acquisition and Divestiture*—Analyzing needs of a business for merger or divestiture alternatives; procedures for locating candidates; evaluation of candidates in terms of strengths and weaknesses (markets, assets, technology, management); divestiture procedures; strategy, and tactics for conducting mergers, acquisitions, and divestitures.	No citation at level 1.	*Corporate Acquisitions and Mergers*, Fox & Fox (Matthew Bender, 1974). Chs. 1,23,32,35.

Summary Descriptions	Level 1 References	Level 2 References
b. *Small Business Executive Management*—The management process as related particularly to the environment, organizational capabilities, and needs of the small company, organization studies and manuals for small businesses.	*Small Business Management*, 3d ed., Broom & Longenecker (South-Western, 1971). Entire text.	Same citation as level 1.

Finance and accounting

(Short explanations and references are representative and not exhaustive)

Summary Descriptions	Level 1 References	Level 2 References
1. *Financial Organization Responsibilities and Reporting*—Operation of the finance function; communication of the organization's financial information to other businesses and entities, understanding of financial and economic information received from other organizations, corporate growth and asset acquisition, and management of the organization's capital requirements.		
a. *Financial Responsibilities and Management*—Overall purpose and structure of the finance function in business; major responsibilities; normal policies for operations; duties and relation between treasurer and controller.	*Corporate Treasurer's and Controller's Encyclopedia*, rev. ed., Goodman (Prentice-Hall, 1975). Ch. 1.	*Top Management Organization in Divisionalized Companies*, Stieglitz & Janger (Conference Board, 1965). Chs. 7,8; pp. 142-151.
b. *Financial Statement Review*—Critique and interpretation of the client financial statements, as well as those of competitors, suppliers, customers, or potential acquirers, for credit, stability, acquisition, or other client purpose.	*Managerial Accounting*, 3d ed., Moore & Jaedicke (South-Western, 1972). Chs. 1,2,3.	*Financial Statements: Form Analysis and Interpretation*, 6th ed., Kennedy & McMullen (Irwin, 1973). Chs. 1,2,8,9,10.
c. *Cash Flow Control*—Control over cash on hand, receipts and deposits, disbursements; location and uses of lock boxes, location of bank accounts; reporting cash position; preparation and use of cash requirements forecast; accounts receivable and accounts payable control, credit policies, and credit and collection management.	*Intermediate Accounting*, 3d ed., Meigs, Mosich, Johnson & Keller (McGraw-Hill, 1974). Ch. 5.	
	Internal Control Against Fraud and Waste, Cadmus & Child (Prentice-Hall, 1953). Entire text.	*Corporate Treasurer's and Controller's Encyclopedia*, rev. ed., Goodman (Prentice-Hall, 1975). Chs. 10,18
d. *Asset Protection and Internal Control*—Policies for control of major asset acquisition, location, use, and disposal; accounting for assets; review of assets for adequacy and contribution to operations and achievement of organization objectives; record-keeping and control of investments and documents.	*Internal Control Against Fraud and Waste*, Cadmus & Child (Prentice-Hall, 1953). Entire text.	*Corporate Treasurer's and Controller's Encyclopedia*, rev. ed., Goodman (Prentice-Hall, 1975). Chs. 21,30.
e. *Economic Analysis of Financial Alternatives*—Careful scrutiny of proposals for commitment of business capital to long- and short-term uses to determine their overall consistency with strategic plans and the annual budget; analysis of proposals for major structural changes through merger, acquisition, or a different legal business form.		

Summary Descriptions	Level 1 References	Level 2 References
(1) *Financing and capital source selection criteria*—Capital structure and configuration; size of capital contributions; selecting and negotiating with banks, investors, creditors, and other institutions; cost of capital computation methods.	*Essentials of Managerial Finance*, 3d ed., Weston & Brigham (Dryden, 1974). Ch. 25.	*Essentials of Managerial Finance*, 3d ed., Weston & Brigham (Dryden, 1974). Chs. 7-9, 15-17, 21.
(2) *Return on investment studies*—Evaluate efficiency of capital use, allocate capital among business segments, establish profit responsibilities.	*Cost Accounting—A Managerial Emphasis*, 3d ed., Horngren (Prentice-Hall, 1972). Ch. 21. and *Managerial Accounting*, 3d ed., Moore & Jaedicke (South-Western, 1972). Ch. 5.	Same citation as level 1.
(3) *Capital expenditure analysis and property management*—Select among competing capital acquisitions, provide for proper use of property and movement of capital to most productive property forms.	*Basic Business Finance*, 4th ed., Hunt, Williams, & Donaldson (Irwin, 1971). Chs. 8,9,10.	*Financial Analysis to Guide Capital Expenditure Decisions*, NAA Research Report 43, (National Association of Accountants, 1967). Chs. 1,2,3.
(4) *Lease or buy analysis*—Studies to determine most cost-effective form of asset control.	*Basic Business Finance*, 4th ed., Hunt, Williams & Donaldson (Irwin, 1971). Ch. 22.	Same citation as level 1.
(5) *Merger and acquisition candidate financial evaluation*—Determining candidate qualifications; evaluating qualifications against those established for acceptable candidates.	*Essentials of Managerial Finance*, 3d ed., Weston & Brigham (Dryden, 1974). Ch. 25.	*Conference on Mergers and Acquisitions, Hofstra University, 1968*, Easton & Broser (McCutchan, 1970). Part 1.
(6) *Forms of business entity*—Proprietorship, partnership, corporation; if one of the latter two, the structure alternatives and probable operating characteristics of each.	*American Business: An Introduction*, 3d ed., Mauser & Schwartz (Harcourt Brace Jovanovich, 1974). Chs. 3,6,7,8,28.	Same citation as level 1.
2. *Management Planning, Reports and Controls*—Development and presentation of management and operating plans; reports on activities for comparison against plans; conformance of activities with plans.		
a. *Annual Financial Planning and Budgeting*—Developing and installing an operating budget system in an organization.		
(1) *Annual planning guidelines*—Setting procedures, cutoff dates, and economic assumptions for preparation of annual budget by profit and cost responsibility centers.	*Budgeting: Profit Planning and Control*, 3d ed., Welsch (Prentice-Hall, 1971). Chs. 1,2,3,4.	Same citation as level 1.
(2) *Functional area budgets*—Administration, documentation, and objectives of budgeting process; scheduling, review of budget, revision of budget; review and participation at top management levels; use of flexible budgets.	*Budgeting: Profit Planning and Control*, 3d ed., Welsch (Prentice-Hall, 1971). Chs. 5-11.	*Budgeting: Key to Planning and Control*, rev. ed., Jones & Trentin (AMA, 1971). Chs. 3,5,6,7.
(3) *Capital expenditures planning and budgeting*—Coordination of capital budget with functional area budget and business policies.	*The Capital Budgeting Decision*, 3d ed., Bierman (MacMillan, 1971). Chs. 1-7.	*Budgeting: Key to Planning and Control*, rev. ed., Jones & Trentin (AMA, 1971). Ch. 8.

Summary Descriptions	Level 1 References	Level 2 References
(4) ***Budget consolidation and review***—Consolidation of product-line and division sales and cost center budgets; use of financial models to evaluate alternative operating strategies; final budget revision and approval cycle.	*Budgeting: Profit Planning and Control*, 3d ed., Welsch (Prentice-Hall, 1971). Chs. 12-13.	***Budgeting: Key to Planning and Control***, rev. ed., Jones & Trentin (AMA, 1971). Chs. 13,14.
b. *Internal Performance Analysis and Reporting*—Adapting information to serve specific managerial needs through reclassifying, summarizing, and arranging it in different ways; comparing actual and budgeted values of recognized performance measures; identifying significant differences and systematically bringing them to the attention of managers of appropriate responsibilities and levels.		
(1) *Product profitability*—Product lines, regional and demographic markets, long- and short-term perspectives; fixed, semifixed and variable costs, price determination, reporting.	*Cost Accounting: A Managerial Emphasis*, 3d ed., Horngren (Prentice-Hall, 1972). Chs. 3,11,26.	*Profitability Accounting for Planning and Control*, 2d ed., Beyer & Trawicki (Ronald, 1972). Chs. 2,7,8,11.
(2) *Business segment profitability*—Segmentation and control responsibility definitions, budget responsibility, related to long-range plans, control, and documentation.	*Cost Accounting: A Managerial Emphasis*, 3d ed., Horngren (Prentice-Hall, 1972). Ch. 21.	*Divisional Performance: Measurement and Control*, 2d ed., Solomons (Dow Jones—Irwin, 1968). Entire text.
(3) *Project and supportive function budgeting*—Program budgets; project selection; management and control; planning and budgeting supportive services such as maintenance and research.	No citation at level 1.	*Financial Analysis to Guide Capital Expenditure Decisions*, NAA Research Report 43 (NAA, 1967). Chs. 4,5. and *Complete Guide to Project Management*, Lock (Cahners, 1969). Entire text.
(4) *Responsibility reporting*—Design of accounts to support reporting and planning activities to individuals responsible for them; identifying individual responsibility; recording and reporting information including variances (actual vs. budgeted differences).	*Cost Accounting: A Managerial Emphasis*, 3d ed., Horngren (Prentice-Hall, 1972). Chs. 5,6.	*Profitability Accounting for Planning and Control*, 2d ed., Beyer & Trawicki (Ronald, 1972). Ch. 4 appendix.
(5) *Data for tax returns and tax planning*—Nature of taxes; framework of federal taxation of business and industry; selected issues such as interperiod income tax allocation, loss carrybacks and carryforwards, accrual alternatives, taxing capital gains.	No citation at level 1.	*Tax Guide for Small Business*, (IRS, current year). Entire text.
(6) *Internal-external reporting relationships*—Historical, financial, and statistical data, need for performance measures that increase profit and other outside measures of performance.	*Budgeting: Profit Planning and Control*, 3d ed., Welsch (Prentice-Hall, 1971). Chs. 15,16,17.	*How to Use Management Ratios*, Westwick (Wiley, 1973). Part 1.
3. *Major Financial Subsystems*—Support for the organization's financial policies, accounting system, and internal accounting policies.		
a. *Accounting Transaction System*—Data handling, ledger account processing, and financial control of accounting data.		

Summary Descriptions	Level 1 References	Level 2 References
(1) *Accounting and data storage systems*—Entry systems, transaction types, and handling; points of origination, documentation, and controls; safeguarding of records; documents of original entry; voucher preparation.	*Fundamentals of Financial Accounting*, Tracy (Wiley, 1973). Chs. 2,3.	Same citation as level 1.
(2) *Chart of accounts development*—Control accounts; contra accounts; coding systems; creation of accounts; revenue and expense accounts; organization considerations; data processing and control considerations; technology considerations.	*Intermediate Accounting*, 3d ed., Meigs, Mosich, Johnson & Keller (McGraw-Hill, 1974). Ch. 2.	Same citation as level 1.
(3) *General ledger and financial reporting system*—Subledgers, control ledgers, entries in "journals" and transference to ledgers; trial balance; statement preparation from ledger account balances; sales, payroll, purchase, assets, expenses.	*Intermediate Accounting*, 3d ed., Meigs, Mosich, Johnson & Keller (McGraw-Hill, 1974). Ch. 2.	*General Ledger and Financial Reporting System*, (Software International, 1974). Entire text.
(4) *Accounting periods, accrual practices and accounting conventions*—Business cycle; revenue and cost recognition; annual and interim accounting statements; selecting annual closing date, cutoffs, depreciation depletion, and amortization alternatives; receipt of assets and supplementary accounting statements; price-level accounting.	*Intermediate Accounting*, 3d ed., Meigs, Mosich, Johnson & Keller (McGraw-Hill, 1974). Chs. 3,4,11,12,-16,17,25.	Same citation as level 1.
(5) *Accounting systems design concepts and consideration*—Types of activities such as purchasing, billing, credit and collection; their incorporation into financial transaction subsystems; accounting procedures, flows and concepts such as receipt of order, shipment on credit, collection of cash; accrual basis, generation of statements.	*Fundamentals of Financial Accounting*, Tracy (Wiley, 1974). Chs. 4,5,6,7,8,9 and *Intermediate Accounting*, 3d ed., Meigs, Mosich, Johnson & Keller (McGraw-Hill, 1974). Ch. 6.	*Corporate Treasurer's and Controller's Encyclopedia*, rev. ed., Goodman (Prentice-Hall, 1975). Chs. 16,28. and *Modern Accounting Systems*, 4th ed., Livingstone & Kerrigan (Ronald, 1975). Ch. 9-14,16,17.
(6) *Payroll and labor distribution*—Internal control considerations, objectives of labor and payroll considerations; determination of payroll tax and fringe benefits; reporting labor cost in products and services.		
b. *Cost Accounting and Reporting*—Cost measurement; recording and estimating systems in an organization.	*Cost Accounting: A Managerial Emphasis*, 3d ed., Horngren (Prentice-Hall, 1972). Ch. 19.	*Corporate Treasurer's and Controller's Encyclopedia*, rev. ed., Goodman (Prentice-Hall, 1975). Ch. 19. and *Modern Accounting Systems*, 4th ed., Livingstone & Kerrigan (Ronald, 1975). Chs. 18,19.
(1) *Production costs*—Cost system related to nature of operation (job, assembly, process); cost classification, including overhead and indirect cost distribution; inventory valuation and control.	*Cost Accounting: A Managerial Emphasis*, 3d ed., Horngren (Prentice-Hall, 1972). Chs. 4,12,17.	*Activity Costing and Input-Output Accounting*, Staubus (Irwin, 1971). Entire text. and *Modern Accounting Systems*, 4th ed., Livingstone & Kerrigan (Ronald, 1975). Chs. 20,26.

Summary Descriptions	Level 1 References	Level 2 References
(2) *Standard costs establishment*—Cost characteristics; engineered and managed costs; processing and uses of standard costs; assignment of indirect costs by activity levels.	*Cost Accounting: A Managerial Emphasis*, 3d ed., Horngren (Prentice-Hall, 1972). Chs. 7,8,9.	*Handbook of Modern Accounting*, Davidson (McGraw-Hill, 1970). Ch. 39.
(3) *Spoilage, waste and scrap*—Normal and abnormal waste; accounting for spoilage, waste, and scrap; relation to joint-product accounting controls.	*Cost Accounting: A Managerial Emphasis*, 3d ed., Horngren (Prentice-Hall, 1972). Ch. 18.	Same citation as level 1.

Electronic data processing

(Short explanations and references are representative and not exhaustive)

Summary Descriptions	Level 1 References	Level 2 References
1. *Systems and Data Processing Management*—Organization and operation of the EDP service in an organization, including its relations with other departments in the organization, efficient utilization of resources for routine data processing services, development of new services, framework for assigning responsibility and measuring performance.		
a. *Organization*—Definition of EDP line and staff positions, coordination levels, steering committees, organization charts, and standards for development of systems and services by EDP management.	*Information Processing Management*, Szweda (Auerbach, 1972). Ch. 3.	*Data Processing Administration: Handbook of Data Processing*, Vol. 6, Rubin (Brandon, 1971). Ch. 1.
b. *Relations with Users of EDP Services*—Interactions between EDP function and other organization divisions, especially in regard to development and/or modification of existing EDP services and development of new EDP services.	*Managing the EDP Function*, Ditri, Shaw & Atkins (McGraw-Hill, 1971). Ch. 4.	*Information Processing Management*, Szweda (Auerbach, 1972). Ch. 6. *Organization and Management of Information Processing Systems*, Albrecht (Macmillan, 1973). Chs. 4-8.
2. *EDP Systems Planning and Control*—Planning and development of EDP services required to support corporate business objectives over a three- to five-year planning horizon; design of systems to provide these services in adequate detail to meet requirements of corporate and user department management; determining economics of new services; planning accurate installation schedule; programming and testing of designed system; installation of the completed system and conversion to the new system including all non-EDP changes and human resources training, as made necessary by the new EDP system or service.		
a. *Forecasting Organization Requirements for EDP Services*—Management information systems and operational systems required to support the business plan; developing priorities for satisfying these requirements.		
(1) *Overall EDP strategy*—Management information and operational systems definitions and description; issues such as centralized or decentralized EDP operations; systems development and systems maintenance activities.	*Management Information Systems: Conceptual Foundations, Structure and Development*, Davis (McGraw-Hill, 1974). Ch. 14.	*The Organization of the Data Processing Function*, Withington (Wiley-Interscience, 1972). Chs. 2,3,6,7.

Summary Descriptions	Level 1 References	Level 2 References
(2) *Hardware and software*—Computer hardware, communications hardware, control software and data management software required to support the systems developed over the planning horizon; allowance for hardware/software flexibility.	*Management Information Systems: Conceptual Foundations, Structure and Development*, Davis (McGraw-Hill, 1974). Ch. 9.	*Computer-Based Management Information Systems*, Krauss (AMA, 1970). Chs. 4-7.
(3) *Scheduling planned conversions*—Process of allocating resources for planned conversions; breaking projects into segments for implementation; anticipating conversion manpower skills and levels required.	*Information Systems for Modern Management*, 2d ed., Murdick & Ross (Prentice-Hall, 1975). Ch. 10.	*Data Processing Administration: Handbook of Data Processing Management*, Vol. 6, Rubin (Brandon, 1971). Ch.12.
(4) *EDP departmental budget*—Budget for EDP services for three to five years.	*Management Control of Information Systems Development*, Sollenberger (National Association of Accountants, 1971). Ch. 6.	*Data Processing Administration: Handbook of Data Processing Management*, Vol. 6, Rubin (Brandon, 1971). Ch. 4.
b. *EDP Systems Design*—Creation of comprehensive hardware-software-human plans for providing required information or operational services to the organization.		
(1) *Information requirements*—Information and operational requirements of EDP service users identified in terms of specific data inputs, outputs, and processing functions.	*Information Systems: Theory and Practice*, Burch & Strater (Hamilton, 1974). Ch. 10 & Appendix C.	*Business Systems and Data Processing*, Clark, Gale & Gray (Prentice-Hall, 1972). Chs. 9-10.
(2) *Design of files, processing system and input transactions*—Content and organization of master files; define input source documents for each input data element; input validation; master file updating and reporting.	*Information Systems for Modern Management*, 2d ed., Murdick & Ross (Prentice-Hall, 1975). Chs. 8,9.	*Information Systems for Operations and Management*, Voich, Mottice, & Shrode (South-Western, 1975). Chs. 8-10.
(3) *Flowcharting and decision tables*—Description of system functions through logical flowcharts and decision tables.	*Computer Data Processing*, Davis (McGraw-Hill, 1973). Ch. 9.	*Computer-Oriented Business Systems*, 2d ed., Boutell (Prentice-Hall, 1973). Ch. 4.
(4) *Documentation*—Administrative project files; systems design and installation work papers; production systems to support documentation and clerical operating procedures.	*Handbook of Data Processing Management, Vol. 2: System Life Cycle Standards*, Rubin (Brandon, 1970). Ch. 8.	*Documentation Standards*, London (Petrocelli Books, 1974). Entire text.
(5) *Human factors engineering*—Compatibility of system with existing organization and staff; planning for systems change and employee retraining.	*Computers: A Systems Approach*, Chapin (Van Nostrand Reinhold, 1971). Ch. 21.	*The Human Side of Data Processing Management*, Wadsworth (Prentice-Hall, 1973). Entire text.
c. *Equipment and Software Evaluation*—In-depth comparative analysis of a wide range of computer hardware and software combinations relative to the EDP systems design parameters; defining selection criteria for vendor proposals, developing specifications for hardware and software; evaluating vendor proposals, contract negotiations; evaluation of alternative methods of acquiring and financing hardware and software.	*Information Processing Management*, Szweda (Auerbach, 1972). Ch. 9.	*Data Processing Administration: Handbook of Data Processing Management*, Vol. 6, Rubin (Brandon, 1971). Chs. 7-9.

Summary Descriptions	Level 1 References	Level 2 References
d. *Specialized Technical Systems*—Design and implementation of specialized EDP techniques such as control functions, direct file access techniques and file organization, on-line data communication, interactive processing, and time-sharing—if called for by system plans.		
(1) *Systems software*—Evaluate and implement vendor programs interfacing between application programs and computer hardware.	*Managing the EDP Function*, Ditri, Shaw & Atkins (McGraw-Hill, 1971). Ch. 11.	*Software Selection*, Wooldridge (Auerbach, 1973). Chs. 4-9.
(2) *Data base management and data dictionary software*—design of systems to control advanced direct access file organization and file access; definition data characteristics for use by data administrator.	*Information Systems: Theory and Practice*, Burch & Strater (Hamilton, 1974). Ch. 6.	*Data Management Systems*, Cagan (Melville, 1973). Entire text.
(3) *Data communications*—Design of remote-to-central-processor links for on-line collection and batch processing; on-line control software; network configurations.	*Computer Data Processing*, Davis (McGraw-Hill, 1973). Ch. 16.	*Systems Analysis for Data Transmission*, Martin (Prentice-Hall, 1972). Chs. 3,6.
(4) *On-line systems*—Design of systems for interactive processing for inquiry and on-line update processing; checkpoint/restart; file backup and recovery; techniques to maximize throughput to retain design response time.	*Design of On-Line Computer Systems*, Yourdon (Prentice-Hall, 1972). Part I.	*Design of On-Line Computer Systems*, Yourdon (Prentice-Hall, 1972). Part II.
(5) *Time-sharing*—Design of interactive time-sharing systems.	*Computer Data Processing*, Davis (McGraw-Hill, 1974). Ch. 21.	*DATAPRO 70: The EDP Buyer's Bible* (DATAPRO Research Corp.; Monthly Updated Service).
e. *EDP Systems Installation*—Develop schedule for achieving installation; economic evaluation of installation plus operation of new system versus continued operation of existing system; final systems programming, testing, conversion.		
(1) *Installation schedule*—Identify activities, manpower, and costs required to perform the detailed design, programming, systems testing, and conversion; schedule activities; use PERT-CPM and/or other techniques to monitor installation development and adjust for schedule slippages.	*Information Systems: Theory and Practice*, Burch & Strater (Hamilton, 1974). Chs. 14,15 & Appendix A.	*Administering and Controlling the Company Data Processing Function*, Krauss (Prentice-Hall, 1969). Chs. 1-4.
(2) *Economic evaluation; presentations to management*—Analyze benefits of the new system versus continued operation of old system; presentation to management of alternatives.	*Fundamentals of Systems Analysis*, FitzGerald & FitzGerald (Wiley, 1973). Chs. 10,11.	Same citation as level 1.
(3) *Final systems programming and testing*—Development of the operational computer program from specifications; coding of program tests; applying tests of individual system components including user procedures, data processing control procedures, computer programs, and specialized technical systems.	*Handbook of Data Processing Management, Vol. 2: Introduction to the System Life Cycle*, Rubin (Brandon, 1970). Ch. 4.	*Managing a Programming Project*, Metzger (Prentice-Hall, 1973). Entire text.

Summary Descriptions	Level 1 References	Level 2 References
(4) *Final systems conversion*—Integrated systems testing including all programs and procedures; application of clerical controls and procedures, including manuals; training of all personnel affected by the new system.	*Information Systems: Theory and Practice*, Burch & Strater (Hamilton, 1974). Ch. 14.	*Data Processing Administration: Handbook of Data Processing Management*, Vol. 6, Rubin (Brandon, 1971). Chs. 12,14.
3 *EDP Operations and Facilities Administration*—Evaluating and sustaining effectiveness of EDP operations and services; monitoring computer systems operations and procedures to assure accurate entering, processing, and reporting of data; review of hardware and personnel operating effectiveness.		
a. *Operations Accuracy and Facilities Security*—Administrative, physical, program and data, clerical, and user controls over operations to assure accuracy of EDP services.		
(1) *Administrative controls*—Separation of operating responsibilities; hardware backup; rotation of duties; maintaining acceptable state of operator and other specialists' skills.	*EDP: Controls and Auditing*, Porter (Wadsworth, 1974). Ch. 4.	*Security, Accuracy and Privacy in Computer Systems*, Martin (Prentice-Hall, 1973). Part VI (Chs. 30-37.)
(2) *Physical security*—Assure only authorized entry to premises; prevent deliberate or accidental damage or destruction to EDP facilities.	*Computer Security Management*, Van Tassel (Prentice-Hall, 1972). Ch. 2.	*Security, Accuracy and Privacy in Computer Systems*, Martin (Prentice-Hall, 1973). Part III (Chs. 24-29.)
(3) *Program and data security*—Assure only authorized access to data; prevent deliberate or accidental alteration or destruction of data; assure correct program processing of valid information; provide reconstruction if data is lost.	*Computer Security Management*, Van Tassel (Prentice-Hall, 1972). Chs. 5-9.	*Security, Accuracy and Privacy in Computer Systems*, Martin (Prentice-Hall, 1973). Chs. 9-23.
(4) *Input, output, and programmed controls*—Clerical controls within EDP department and programmed controls within computer systems to verify receipt, processing, and output of data; proper distribution of output data; user controls to verify correct processing of data.	*EDP: Controls and Auditing*, Porter (Wadsworth, 1974). Chs. 6,7.	*Security, Accuracy and Privacy in Computer Systems*, Martin (Prentice-Hall, 1973). Chs. 6-18.
b. *Evaluation of Operations Performance*—Procedures and reports to appraise and modify performance of EDP hardware, software, and personnel relative to operating goals.		
(1) *Equipment and software evaluation*—Computer hardware and software adequacy to meet current and future operating requirements; review of operating logs and monitor reports; physical observation.	*Data Systems and Management*, Kindred (Prentice-Hall, 1973). Ch. 8.	*Information Systems Administration*, McFarland, Nolan, & Norten (Holt, Rinehart & Winston, 1975). Chs. 5,6.
(2) *Operations evaluation*—Operator run books; disk storage user charts; computer scheduling; utilization reporting; file library; routine systems and program testing and performance evaluations from EDP services users.	*Managing the EDP Function*, Ditri, Shaw & Atkins (McGraw-Hill, 1971). Ch. 10.	*Information Processing Management*, Szweda (Auerbach, 1972). Ch. 4.

Operations

(Short explanations and references are representative and not exhaustive)

Summary Descriptions	Level 1 References	Level 2 References
1. *Operations Organization and Structure*—Nature of the operations organizational structure; its policies and objectives; organizational types and component elements; a framework for assigning responsibility and measuring performance. These concepts apply to administrative office functions as well as to manufacturing and service industry operations.		
a. *Line and Staff Functions*—Lines of authority, coordination levels; committee formulations; organization charts.	*Manufacturing Management*, 4th ed., Moore (Irwin, 1965). Chs. 2,3,4.	*Production Handbook*, 3d ed., Carson, Bolz and Young (Ronald, 1973). Ch. 1.
b. *Job Responsibility and Performance*—Job definitions; charters of responsibility; management performance objectives.	*Job Evaluation: Text and Cases*, 3d ed., Patton, Littlefield & Self (Irwin, 1964). Parts II,III.	*How to Use Management Ratios*, Westwick (Gower, 1973). Part 1 & 2: Chs. 7,9,11
c. *Information Flow*—Analysis of flow between line operations and staff functions; transaction flow; formal reports; informal meetings.	No citation at level 1.	*Handbook of Modern Manufacturing Management*, Maynard, (ed.) (McGraw-Hill, 1970). Section 2.
2. *Operations Planning and Control*—Supports resource planning activities in both the manufacturing and service industries; resource allocation alternatives; provides the reporting feedback to gauge performance vs. the operating plan.		
a. *Capacity Planning*—Setting the level of capacity in terms of facility, manpower, and material resource availability.		
(1) *Final product demand forecasting*—Relating historical and current customer order patterns and economic activity levels to future production requirements.	*Production-Inventory Systems: Planning and Control*, rev. ed., Buffa & Taubert (Irwin, 1972). Ch. 2.	*Production and Inventory Control Handbook*, Greene (McGraw-Hill, 1970). Ch. 8.
(2) *Capacity loading*—Infinite loading, finite loading; definitions of theoretical, standard, and rated capacity levels; machine-paced activities, manpower-paced activities.	*Production and Inventory Control*, Plossl & Wright (Prentice-Hall, 1967). Ch. 9.	*Communications Oriented Production Information and Control Systems*, vol. 5, (IBM G320-1973). Ch. 6.
b. *Production Planning*—Setting the master operations plan and assignment of resources through evaluation of capacity, availability, forecasted demand, backorder levels and current finished goods inventory levels.	*Production-Inventory Systems: Planning and Control*, rev. ed., Buffa & Taubert (Irwin, 1972). Chs. 5,6,7.	*Production and Inventory Control Handbook*, Greene (McGraw-Hill, 1970). Chs. 9,11.
c. *Materials Planning*—Setting the master materials requirements plan based upon the time-phased requirements of the master operations plan.	*Materials Requirements Planning*, Orlicky (McGraw-Hill, 1975). Parts I,II,III.	*Materials Requirements Planning*, Orlicky (McGraw-Hill, 1975). Parts IV,V,VI.
d. *Manpower Planning*—Setting the operations manpower plan based upon the time-phased analysis of skill level requirements needed to support the master operations plan.	*Manpower Planning: Evolving Systems*, Wikstrom (Conference Board, 1971). Chs. 1-4.	*Production and Inventory Control Handbook*, Greene (McGraw-Hill, 1970). Ch. 10.

Summary Descriptions	Level 1 References	Level 2 References
1. *Simulation*—Model formulation, computer implementation, validation methods; analog, iconic, and symbolic models; adequacy of representation; static and dynamic simulation methods; deterministic and Monte Carlo approaches.	*Principles of Operations Research*, Wagner (Prentice-Hall, 1975). Ch. 21. *System Simulation*, Gordon (Prentice-Hall, 1969). Chs. 1-4,6,7,8.	*Computer Simulation Techniques*, Naylor, Balintfy, Burdick & Chu (Wiley, 1966). Entire text. *Simulation in Business and Economics*, Meier, Newell & Pazar (Prentice-Hall, 1969) Chs. 3-1,5,7,8,9.
3. *Management Science Application Areas*—Management science models and techniques are broadly applicable throughout the range of organizational activity. Knowledge of application areas is an essential part of a management scientist's proficiency. The application areas are numerous and include specific industry applications as well as functional applications. The following is a partial list of application areas in which the applications have become a part of the management sciences body of knowledge.		
a. *General Management*—Corporate planning; investment analysis; acquisition analysis; plant site selection; new product evaluation; project control; R&D planning and project selection; personnel scheduling.	*Executive Decisions and Operation Research*, Miller & Starr (Prentice-Hall, 1960). Entire text.	*Scientific Decision Making Business*, Schuchman (Holt, Rinehart & Winston, 1963). Parts I,III,IV
b. *Finance and Accounting*—Financial planning projections; cash flow forecasting; capital budgeting; capital investment performance forecasting; credit analysis; long-range financial strategy; capital structure analysis; lease/buy decisions; reserves determination; auditing (sampling plans, and auditor-assignment scheduling).	*Information for Decision Making*, 2d ed., Rappaport (Prentice-Hall, 1975). Entire text.	*Corporate Simulation Models*, Schreiber (University of Washington, 1970) Entire text
c. *Operations*—Multiplant production allocation; inventory management; production planning and scheduling; job scheduling and control; ingredients blending; routing and sequencing of materials flow; facilities and process layout; line balancing and pacing; shop loading and capacity planning; quality control; product reliability.	*Industrial Operations Research*, Fabrycky, Ghare & Torgerson (Prentice-Hall, 1972). Chs. 4,5,6.	*Production and Operations Management*, Gavett (Harcourt Brace & World, 1968). Entire text *Operations Research in Production Planning, Scheduling, and Inventory Control*, Johnson & Montgomery (Wiley, 1974). Chs. 1-5
d. *Marketing*—Sales forecasting; market share analysis; product mix analysis; advertising media selection; sales force planning and control; advertising budgeting and planning; product-line planning; promotion budgeting and planning; distribution and logistics applications such as: facilities location, product routing, mode of transportation analysis, carrier routing and scheduling; multilocation inventory planning and control.	*Quantitative Analysis for Marketing Management*, King (McGraw-Hill, 1967). Chs. 4-11.	*Application of Management Sciences in Marketing*, Montgomery & Urban (Prentice-Hall, 1969) Chs. 2-7 *Applications of the Sciences in Marketing Management*, Bass, King & Pessemier (Wiley, 1968) Chs. 1,6,9,10,11-11.

Summary Descriptions	Level 1 References	Level 2 References
e. *Operations Scheduling and Control*—Converting the master operations plan into detail schedules that specify date and time requirements for facilities, materials, and personnel with the aim of optimizing the utilization of these resources.		
(1) *Resource scheduling techniques*—Gantt charts and line-of-balance; queuing analysis; dynamic and linear program simulations; assembly line balancing; key resource profit contribution approach.	*Production Planning and Inventory Control*, 2d ed., Magee and Boodman (McGraw-Hill, 1967). Ch. 9.	*Production and Inventory Control Handbook*, Greene (McGraw-Hill, 1970). Chs. 20,21,25.
(2) *Office manpower scheduling*—Peak period scheduling, work load leveling, work sequencing, overtime, and subcontract services scheduling.	No citation at level 1.	*Control Techniques for Office Efficiency*, Grillo (McGraw-Hill, 1963). Ch. 7.
f. *Operations Status and Performance Reporting*—Analyzing the efficiency and utilization of input resources to produce finished goods; production status reporting against master operation plan.		
(1) *Data collection procedures*—Reporting of personnel time and facility use, use of job order tickets, time cards, work center production reports.	*Office Operations Improvements*, Payne & Swett (AMA, 1967). Chs. 7,8.	*Production and Inventory Control Handbook*, Greene (McGraw-Hill, 1970). Chs. 20,21,25.
(2) *Management reporting*—Job status, labor utilization, efficiency productivity; machine utilization and efficiency; rework and backlog; accident prevention; reporting energy utilization; social impact reporting; use of cost variance reports.	*Office Operations Improvements*, Payne & Swett (AMA, 1967). Chs. 9,10.	Same citation as level 1.
3. *Operations Processing Functions*—This area defines the functional activities that sequentially support the production flow.		
a. *Product Design*—Specifying the shape, composition, performance, and quality characteristics of the product by means of drawings, instructions, standard practices, and design engineering information such as coding and specification of product, parts and formulas, bills of material, assembly configuration control, engineering change control.	No citation at level 1.	*Fundamentals of Configuration Management*, Samaras & Czerwinski (Wiley-Interscience, 1971). Parts I,II,III.
b. *Maintenance Engineering*—Scheduling of maintenance and inspection; routing preventive maintenance; shut down and overhaul project control; repair record-keeping.	*Effective Maintenance Management*, Newbrough (McGraw-Hill, 1967). Sec. I and Ch. 18.	*Handbook of Modern Manufacturing Management*, Maynard (McGraw-Hill, 1970). Sec. 6.
c. *Customer Order Processing*—Receiving and approving orders; shipment date notification and back order control; returned goods authorization; receipt control.	*Management-Oriented Management Information Systems*, Kanter (Prentice-Hall, 1972). Chs. 1-4.	*Communications Oriented Production Information and Control Systems*, vol. 2, (IBM G320-1975). Ch. 2.
d. *Procurement*—Securing materials and supplies at a minimum cost in the quantity, quality, and timeliness needed to support production.		
(1) *Request for quotation*—Vendor selection criteria and evaluation; request for quotation control; blanket order negotiation.	*Modern Procurement Management*, 5th ed., England (Irwin, 1970). Chs. 2,3,4,8,9.	*Purchasing Handbook*, 3d ed., Aljian (McGraw-Hill, 1973). Chs. 5,6,7,11,27,28.

Summary Descriptions	Level 1 References	Level 2 References
(2) *Purchase order release*—Open order control; order size and lot release size determination; shortage and late shipment expediting.	*Modern Procurement Management*, 5th ed., England (Irwin, 1970). Ch. 7. *Production-Inventory Systems: Planning and Control*, rev. ed., Buffa & Taubert (Irwin, 1972). Ch. 3.	*Communications Oriented Production Information and Control Systems*, vols. 4 & 7 (IBM G320-1980). Chs. 5,10.
e. *Order Scheduling*—Assigning finished goods production to customer orders, expediting production on critical orders; dispatching procedures; identifying deviations from schedule; scheduling techniques such as CPM, Pert, and other network analysis techniques; parallel scheduling.	*Production-Inventory Systems: Planning and Control*, rev. ed., Buffa & Taubert (Irwin, 1972). Chs. 11,12,13.	*Communications Oriented Production Information and Control Systems*, vols. 5, 6 (IBM G320-1978, 1979). Chs. 7,8. *Scheduling Handbook*, O'Brien (McGraw-Hill, 1969). Chs. 2,3,4, 5,7.
f. *Manufacturing Engineering Information*—Manufacturing bills of materials, tooling, and equipment specification; fabricated parts routings; assembly and process information; make/buy decision analysis.	*Scientific Programming in Business and Industry*, Vazsonyi (Wiley, 1958). Ch. 16.	*Communications Oriented Production Information and Control Systems*, vol. 4 (IBM G320-1977). Ch. 5.
g. *Materials Control and Handling*—Establishing the best methods for storing and transporting materials within the operations facility.		
(1) *Material and component availability*—Vendor lead-time checking; projected shortage identification and expediting; scrap control, cycle counting.	*Materials Management*, 3d ed., Ammer (Irwin, 1974). Ch. 14.	*Communications Oriented Production Information and Control Systems*, (IBM G320-1977). Ch. 5.
(2) *Materials requisitioning and control*—Implementing material ordering rules, reorder points, safety stock levels; short-term materials scheduling; requisitioning and updates to master materials plan.	*Production-Inventory Systems: Planning and Control*, rev. ed., Buffa & Taubert (Irwin, 1972). Parts I,II.	*Production and Inventory Control Handbook*, Greene (McGraw-Hill, 1970) Chs. 14-16.
(3) *Materials handling*—Design and setup of materials flow and storage prior to and during operations, traffic, receiving, storeskeeping, kitting, finished goods warehousing, and shipment product packaging.	*Material Handling Systems Design*, Apple (Ronald, 1972). Chs. 1-3,6,7.	*Material Handling Systems Design*, Apple (Ronald, 1972). Chs. 11-15.
h. *Quality Assurance*—Setting quality acceptance standards and criteria for component purchase parts, in-process inspection, and finished goods reliability.		
(1) *Statistical criteria*—Quality control decision rules, sampling and rejection probabilities, and confidence intervals; use of control charts.	*Quality Control and Industrial Statistics*, 3d ed., Duncan (Irwin, 1965). Parts II,IV,V.	*Quality Control Handbook*, 3d ed., Juran (McGraw-Hill, 1974). Sec. 22,23,24.
(2) *Inspection methods*—Inspection tools, methods, and locations; purchased parts reject control; process control and batch tests; assembly reliability tests.	*Quality Planning and Analysis*, Juran & Gryna (McGraw-Hill, 1970). Chs. 14-23.	*Quality Control Handbook*, 3d ed., Juran (McGraw-Hill, 1974). Sec. 12,13.
(3) *Customer service and complaint analysis*—Repair or replace decisions, field failure investigation, and product design revision recommendations; field failure reports.	*Quality Planning and Analysis*, Juran & Gryna (McGraw-Hill, 1970). Chs. 24-28.	*Quality Control Handbook*, 3d ed., Juran (McGraw-Hill, 1974). Sec. 15,21.

Summary Descriptions	Level 1 References	Level 2 References
4. *Important Applications in Operations*—Specific knowledge related to certain applications is necessary to complete the operations body of knowledge.		
a. *Industrial Engineering and Standards Development*—Designing efficient layouts of work stations and setting standards and procedures for individual group and performance levels at work stations in the manufacturing plant and in office service operations.		
(1) *Performance standards development*—Work measurement using time logs; work sampling; time study; methods study; time measurement; learning curve analysis; job descriptions and procedures, documentation and manual preparation.	*Motion and Time Study: Design and Measurement of Work*, 6th ed., Barnes (Wiley, 1968). Entire text.	*Handbook of Modern Manufacturing Management*, 3d ed., Maynard (McGraw-Hill, 1970). Section 3: Ch. 8.
(2) *Work methods analysis and simplification*—Forms evaluation, design, and simplification; mechanization of repetitive tasks.	*Administrative Office Management*, 6th ed., Neuner, Keeling, & Kallaus (South-Western, 1972). Chs. 15-19,23.	*Handbook of Modern Office Management and Administrative Services*, Heyel (McGraw-Hill, 1972). Section 5.
(3) *Plant layout*—Design of flow patterns for process, assembly, and job shop facilities; queuing analysis of service areas; environmental factors.	*Plant Location, Layout, and Maintenance*, Reed (Irwin, 1967). Part II.	*Handbook of Modern Manufacturing Management*, 3d ed., Maynard (McGraw-Hill, 1970). Section 3, Ch. 2.
(4) *Office layout*—Office space studies; selecting equipment and mechanical aids; security analysis; work flow patterns; environmental factors.	*Office Space Administration*, Ripnen (McGraw-Hill, 1974). Entire text.	*Management Objectives in Office Design: Planning and Implementation*, White (Industrial & Commercial Techniques, 1971). Entire text.
(5) *Systems and procedures*—Design and installation of systems and procedures including forms, schedules, and other necessary documentation.	No citation at level 1.	*Systems and Procedures: A Handbook for Business and Industry*, 2d ed., Lazarro (Prentice-Hall, 1968). Entire text.
b. *Office Management*—Coordinating the various office services including communications, records management, mailing and reproduction, and providing for efficient office furnishings and data handling equipment.		*Handbook of Modern Office Management and Administrative Services*, Heyel (McGraw-Hill, 1972). Section 5, Chs. 1,2,3,4,9
(1) *Communications*—Design of internal mail systems; evaluation of reproduction equipment and data transduction equipment; data transmission lines, their use and control.	*Administrative Office Management*, 6th ed., Neuner, Keeling & Kallaus (South-Western, 1972). Chs. 7,9.	*Handbook of Modern Office Management and Administrative Services*, Heyel (McGraw-Hill, 1972). Sec. 4, Chs. 4-7,11-13.
(2) *Records management*—File space allocation and arrangement; indexing procedures; file storage and record retrieval systems; security and government regulations; central filing systems and procedures.	*Information and Records Management*, Maedke, Robek, & Brown (Glencoe, 1974). Parts 2-6.	*Handbook of Modern Office Management and Administrative Services*, Heyel (McGraw-Hill, 1972). Sec. 4, Chs. 8-10.
(3) *Secretarial and clerical services*—Application and utilization of word processing centers; tape and magnetic card typing, and data input machines; manual record-keeping and tabulating equipment.	*Management Services by Accounting Firms*, Arnstein (Ronald, 1967). Part IV.	*Handbook of Modern Office Management and Administrative Services*, Heyel (McGraw-Hill, 1972). Sec. 4, Chs. 1-3.

Summary Descriptions	Level 1 References	Level 2 References
		Office Planning for Profit, Chambers (Business Books, 1972). Entire text.
(4) *Preparing administrative manuals*—Manual planning and organization, writing style, reproduction and distribution updating.	No citation at level 1.	*How to Prepare an Effective Company Operations Manual*, Seltz, (Darinell, 1974). Entire text.

Human resources

(Short explanations and references are representative and not exhaustive)

Summary Descriptions	Level 1 References	Level 2 References
1. *Personnel Management*—Major responsibilities relating to human resources management in an organization; functions and situations normally requiring personnel policy; relations and information exchanges with other organization functions.		
a. *Personnel Function Organization*—Major responsibilities within the personnel function to top management and to other functional divisions in the organization.	*Principles of Personnel Management*, 3d ed., Flippo (McGraw-Hill, 1971). Chs. 3,4.	*AMA Management Handbook*, Moore (AMA, 1970). Entire text.
b. *Industrial and Labor Relations and Working with Unions*—Essential principles of industrial relations; characteristics of unions; process of negotiating contracts and operating through a contract.	*Successful Labor Relations*, rev. ed., Levin (Fairchild, 1967). Secs. I,III,IV,V,IX.	*How to Manage With a Union*, Justin (Industrial Relations, 1969). Book 1, Chs. 1-5.
c. *Legal Aspects of Human Resources Management*—Overall legal framework governing employer-employee relations, including familiarity with the major health, safety, wage, hours, and antidiscrimination provisions of federal labor law and their recent interpretations; role of major federal institutions such as the Federal Trade Commission and National Labor Relations Board.	No citation at level 1.	*Fair Employment Practices Under Federal Law* (Commerce Clearing House, 1975). Entire text.
2. *Human Resources Planning and Control*—Planning human resources requirements; recruiting, developing, maintaining, and utilizing these resources.		
a. *Responsibility Levels Other Than Executive*—Policy areas affecting nonmanagerial and lower to middle managerial employees.		
(1) *Human resources requirements forecasting*—Organizational goal and objective implications for human resources requirements; preparation and use of manpower and skills forecasts; forecasting different skills levels requirements (e.g., executive, specific highly skilled, specific less highly skilled).	"Manpower Planning Models and Techniques", *Business Horizons*, Bryant, Maggard, & Taylor (April, 1973). Pp. 69-78.	*On Manpower Forecasting*, Morton (Upjohn, 1968). Entire text.
(2) *Hiring practices and programs*—Creating or analyzing job descriptions, duties, and skill combinations; developing recruiting programs; determining and comparing qualifications of potential employees for the organization.	*Handbook of Wage and Salary Administration*, Rock (McGraw-Hill, 1972). Chs. 1-6.	*The Recruitment Function*, Hawk (AMA, 1967). Entire text. and

Summary Descriptions	Level 1 References	Level 2 References
		Job Descriptions: How to Write and Use Them, Berenson & Ruhnke (Personnel Journal, 1967).
(3) *Skills development and training*—Principles of training program planning, structuring, and administration for existing or new employees, for various levels of responsibility to develop new skills, improve existing skills, and/or learn safe procedures.	*Training for Development*, Lynton & Pareek (Irwin, 1967). Entire text.	*Designing Training and Development Systems*, Tracey (AMA, 1971). Entire text.
(4) *Wage and salary policy formulation*—Anticipating need for wage and salary adjustment; criteria for acceptable adjustment policy; process of developing policy to guide wages and salaries review.	*Personnel: The Management of People at Work*, 3d ed., Beach (Macmillan, 1975). Ch. 25.	*Handbook of Wage and Salary Administration*, Rock (McGraw-Hill, 1972). Chs. 48,49.
(5) *Employee benefits*—Significance of employee benefits in terms of size relative to wages and tax status; actuarial principles and application in calculating insurance and other deferred benefits; financial reporting requirements applying to employee benefits; specific legal restrictions and regulations applying to pension, disability, medical, and leave benefits.	*Personnel: The Management of People at Work*, 3d ed., Beach (Macmillan, 1975). Ch. 29.	*Handbook of Wage and Salary Administration*, Rock (McGraw-Hill, 1972). Chs. 28–31, 51. *Management Bulletin 59: Employee Benefit and Pension Management* (AMA, 1965). Entire text. *Management Bulletin No. 113: Employee Benefit Cost Control* (AMA, 1968). Entire text. *Employee Benefit Plan Review* (Spencer & Assoc: monthly).
b. *Executive Responsibility Levels*—Policy areas that appear to uniquely affect only upper management employees.		
(1) *Executive search*—Identifying requirements of an open managerial position; locating and contacting qualified candidates; communication between client and candidate leading to position being filled.	*Confessions of a Corporate Headhunter*, Cox (Trident, 1973). Entire text.	*The Handbook of Executive Search*, Kennedy (Consultants' News, 1974). Entire text.
(2) *Executive compensation*—Need for "replacement income" for highly compensated executives; relative dollar, tax, and motivational significance of base salary, bonuses, capital accumulation plans (e.g., stock options), and managerial perquisites; use of survey and statistical techniques to establish valid comparative data; legal regulatory and financial reporting disclosure requirements applying to executive compensation; businessman's understanding of how profit is produced and relation of various incentive plans to profit production.	*Financial Motivation for Executives*, Crystal (AMA, 1970). Entire text.	*How to Compensate Executives*, Cheeks (Dow-Jones-Irwin, 1974). Entire text.
(3) *Executive development programs*—Anticipating executive talent re-		

Summary Descriptions	Level 1 References	Level 2 References
quirements; recognizing and encouraging such talent to develop within the organization; developing specialized executive training programs for potential and existing managerial talent; executive responsibility descriptions; review of executive performance.	*The Human Constraint: The Coming Shortage of Managerial Talent*, Miner (Bureau of National Affairs, 1974). Chs. 1,2,14,15.	*A Concise Guide to Management Development*, Desatnick (AMA, 1970). Entire text.
3. *Human Resources Operations*—Techniques and practices that are important in implementing human resources policies of an organization, especially in day-to-day activities.		
a. *Performance Review and Wage Classification*—Implementing policies for appraising employee performance; communicating performance evaluations to employees; adjusting compensation and responsibility through transfer or promotion to reflect results of performance evaluation.	*Personnel Management*, 8th ed., Jucius (Irwin, 1975). Chs. 11,12.	*What to Do About Performance Appraisal*, Kellogg (AMA, 1965). Entire text.
b. *Employee Relations*—Programs and activities conducive to a safe, equitable, enriched work environment.		
(1) *Grievance and disciplinary procedures*—Channels for handling grievances; establishing disciplinary procedures and penalties; employee participation in grievance and disciplinary procedures.	*Personnel: The Management of People at Work*, 3d ed., Beach (Macmillan, 1975). Chs. 23,24.	*How to Manage with a Union*, Justin (Industrial Relations, 1969). Book I, Secs. 3,4,5,6,7,8,9.
(2) *Health and safety*—Maintaining working conditions that are healthy and safe; inspection programs; safety equipment; identifying accident-prone workers; industrial health and safety programs' organization and function.	*Personnel: The Management of People at Work*, 3d ed., Beach (Macmillan, 1975). Ch. 28.	*Industry Roles in Health Care* (Conference Board, 1974). Entire text. and *OSHA and the Union, Bargaining on Job Safety and Health, A BNA Special Report* (Bureau of National Affairs, 1973). Entire text.
(3) *Environmental enrichment and communications programs*—Sports, community service, charitable activities; organization newsletters; employee suggestion incentive systems; making policies and policy interpretation known to employees.	*A Guide to Creative Personnel Management*, Benton (Prentice-Hall, 1962). Chs. 20,21.	*Employee Communications: Policy and Tools*, (Conference Board, 1966). Entire text. *New Perspectives in Job Enrichment*, Maher (Van Nostrand Reinhold, 1971). Chs. 1,10,11.
(4) *Job design and enrichment*—Development of interesting jobs; reduction or elimination of dull or boring routines.	No citation at level 1.	*New Perspectives in Job Enrichment*, Maher (Van Nostrand Reinhold, 1971). Chs. 1,10,11.

Marketing

(Short explanations and references are representative and not exhaustive)

Summary Descriptions	Level 1 References	Level 2 References
1. *Marketing Administration*—The nature of the marketing organizational structure; its policies and objectives; framework for assigning responsibility and measuring performance.		

Summary Descriptions	Level 1 References	Level 2 References
a. *Line and Staff Functions*—Lines of authority, coordination levels; committees; organization charts.	*Marketing Management: Analysis, Planning, and Control*, 2d ed., Kotler (Prentice-Hall, 1972). Ch. 9.	*Handbook of Modern Marketing*, Buell (McGraw-Hill, 1970). Sections 7,9.
b. *Job Responsibility and Performance*—Job definitions; charts of responsibility; management performance objectives.	No citation at level 1.	*Job Descriptions in Marketing*, Sperling (AMA Research Study 94). (American Marketing Association, 1969). Entire text.
c. *Information Flow*—Analysis of flow between line operations and staff functions; transactions flow; formal and informal information.	*Marketing Management: Analysis, Planning, and Control*, 2d ed., Kotler (Prentice-Hall, 1972). Ch. 10.	*Marketing Information Systems*, Schaffir & Trenton (AMACOM, 1973). Chs. 1-7,16.
2. *Marketing Research, Planning and Control*—Planning to develop marketing services related to organizational objectives over a three- to five-year planning horizon; development of products and marketing resources to provide these services; determining economics of proposed new products and services; planning schedules to implement marketing programs.		
a. *Marketing Research*—Techniques of analysis, investigation, and research used to identify and understand marketing problems and seek solutions to them.		
(1) *Consumer behavior and decision processes*—Micro and macro behavior, consumer tactics, social interaction, cultural and reference group effects.	*Consumer Behavior: Theory and Practice*, rev. ed., Walters (Irwin, 1974). Entire text.	*Consumer Behavior: Theory and Application*, Farley, Howard & Ring (Allyn & Bacon, 1974). Entire text.
(2) *Market institutional structure*—Interrelationships—static and dynamic, retail and wholesale, as required to understand the significance of a research question or result.	*Marketing: Principles and Methods*, 7th ed. Carman & Uhl (Irwin, 1973). Entire text.	*Marketing Decision Making: A Model Building Approach*, Kotler (Holt, Rinehart & Winston, 1971). Entire text.
(3) *Research process*—Phases, structure, and policies including administrative fundamentals and project management concepts as well as scientific method applied to research hypotheses.	*Marketing Research: Fundamentals & Dynamics*, Zaltman & Burger (Dryden, 1975). Chs. 1-4,14-17.	*Handbook of Marketing Research*, Ferber (McGraw-Hill, 1974). Sections I,II.
(4) *Methods of data collection*—Sampling, surveys, interviews, questionnaires, and selection of most appropriate means to obtain the data required.	*Marketing Research: Text and Cases*, 3d ed., Boyd & Westfall (Irwin, 1972). Chs. 1-11.	*Research for Marketing Decisions*, 3d ed., Green & Tull (Prentice-Hall, 1974). Chs. 1-7,16.
(5) *Data evaluation, interpretation and projection*—Applied to results of marketing research studies and historical data, using statistical techniques.	*Research for Marketing Decisions*, 3d ed., Green & Tull (Prentice-Hall, 1974). Chs. 8-15,17.	*Applications of the Sciences in Marketing Management*, Bass, King & Pessemier (Wiley, 1968). Entire text.
b. *Marketing Planning and Control*—Techniques, skills, and procedures related to all aspects of planning and controlling marketing activities and the marketing function.		
(1) *Marketing Planning*—Processes, techniques, and organization for market planning.	*Marketing Management: Analysis, Planning and Control*, 2d ed., Kotler (Prentice-Hall, 1972). Chs. 11,20.	*Marketing Planning: Approaches of Selected Companies*, Miller (AMA, 1967). Entire text.

Summary Descriptions	Level 1 References	Level 2 References
(2) *Sales forecasting*—Use of models based on time series analysis, regression analysis, exponential smoothing, subjective methods, forecasting new products, evaluation of forecasts; appraising forecast accuracy; use of models to simulate market processes.	*Marketing Management: Analysis, Planning and Control*, 2d ed., Kotler (Prentice-Hall, 1972). Ch. 7.	*Marketing Decision Making: A Model Building Approach*, Kotler (Holt, Rinehart & Winston, 1971). Parts I,II,III.
(3) *Use of sales analysis*—By region, product line, and market; by time period to show trend, market share, and product contribution; identifying effects of changing advertising, promotions, price changes, and other variables.	*Management of the Sales Force*, 4th ed., Stanton & Buskirk (Irwin, 1974). Chs. 23,24.	*Marketing Management: Analysis, Planning and Control*, 2d ed., Kotler (Prentice-Hall, 1972). Ch. 21.
(4) *Marketing strategy formulation*—Marketing mix decisions on product continuation or change, new product introduction, and timing; use of customer and product profitability analysis to evaluate sales emphasis, promotion, and distribution.	*Basic Marketing*, 4th ed., McCarthy (Irwin, 1971). Chs. 2,10-28.	*Managerial Analysis in Marketing*, Sturdivant (Scott Foresman, 1970). Chs. 5-16. *Managing Marketing Profitability*, Simon (AMA, 1969). Entire text.
3. *Marketing Operations*—Evaluating and sustaining effectiveness of marketing operations including management of the sales force, product promotion, distribution and handling, and understanding government regulations applying to marketing.		
a. *Sales Force Management*—Policies and procedures for developing and maintaining an effective selling organization for industrial, manufactured, or agricultural products.		
(1) Behavioral sciences, psychology of selling process, interpersonal relationships, motivation, and communication.	*Sales Force Management*, Davis & Webster (Ronald, 1968). Chs. 3,4,5,11.	*Selling: A Managerial and Behavioral Science Analysis*, 2d ed., Thompson (McGraw-Hill, 1973). Parts 3-6.
(2) Incentive and other compensation systems for sales personnel and circumstances that favor each system.	*Management of the Sales Force*, 4th ed., Stanton & Buskirk (Irwin, 1974). Chs. 13-15,17,18.	*The Dartnell Sales Manager's Handbook*, 11th ed., Asplev, Riso (ed.) (Dartnell, 1968). Chs. 42-44; 53,54.
(3) Sales territory and sales support identification and provision.	*Sales Force Management*, Davis & Webster (Ronald, 1968). Chs. 2,7.	*The Dartnell Sales Manager's Handbook*, 11th ed., Asplev, Riso (ed.) (Dartnell, 1968) Chs. 51,52
(4) Sales staff training and development, including use of in-house and external facilities, content of programs, and selection of persons to undergo training.	*Management of the Sales Force*, 4th ed., Stanton & Buskirk (Irwin, 1974). Chs. 10-12.	*The Dartnell Sales Manager's Handbook*, 11th ed., Asplev, Riso (ed.) (Dartnell, 1968). Chs. 48-50.
b. *Advertising and Product Promotions*—Media advertising, warranties, allowances, customer profiling.	*Promotional Strategy*, 3d ed., Engel, Wales & Warshaw (Irwin, 1975). Entire text.	*Sales Promotion Handbook*, 6th ed., Riso (Dartnell, 1973). Entire text.
c. *Product Distribution and Handling*—Economics of product handling after manufacture and before sale; getting product prior to delivery; control of product lines.		

Summary Descriptions	Level 1 References	Level 2 References
(1) *Distribution cost accounting and effectiveness*—Evaluation of alternative distribution channels including factory, warehouse and sales facility location.	*Physical Distribution Management*, rev. ed., Bowersox, Smykay & LaLonde (Macmillan, 1968). Chs. 1,3,4,5,-10,12,13.	*The Marketing Channel: A Conceptual Viewpoint*, Mallen (Wiley, 1967). Entire text.
(2) *Inventory management and control*—Control of finished goods and spare parts for servicing; warehouse management.	*Business Logistics: Concepts and Viewpoints*, Daniel & Jones (Allyn & Bacon, 1969). Part 4.	*Physical Distribution Management*, rev. ed., Bowersox, Smykay & LaLonde (Macmillan, 1968). Ch. 8.
(3) *Transportation*—Moving product to specific locations when required for reasonable cost.	*Introduction to Logistics and Traffic Management*, McElhiney & Hilton (Brown, 1968). Entire text.	*Physical Distribution Management*, rev. ed., Bowersox, Smykay & LaLonde (Macmillan, 1968). Chs. 6,7
(4) *Product packaging, handling, and storage*—As these affect or control the distribution process.	*Business Logistics: Concepts and Viewpoints*, Daniel & Jones (Allyn & Bacon, 1969). Part 7.	"Packaging's Role in Physical Distribution." *AMA Bulletin No. 77* (AMA, 1966). Entire text
d. *Customer Service*—Setting customer service levels; customer service and repair support; warranty and service contract performance.	*The Consumer Affairs Department: Organization and Functions*, (Conference Board, 1973). Entire text.	*Product Service Management*, Gannon (American Marketing Association, 1972). Entire text.
e. *Government Regulation*—Understanding and complying with major regulations affecting competition and pricing policies of the firm, Sherman Act, Clayton Act, Robins or Putnam Act, antidumping provision of international commerce.	*Marketing Principles: The Management Process*, Enis (Goodyear, 1974). Ch. 5.	*Marketing Management: Analysis, Planning, and Control*, 2d ed., Kotler (Prentice-Hall 1972). Ch. 22.

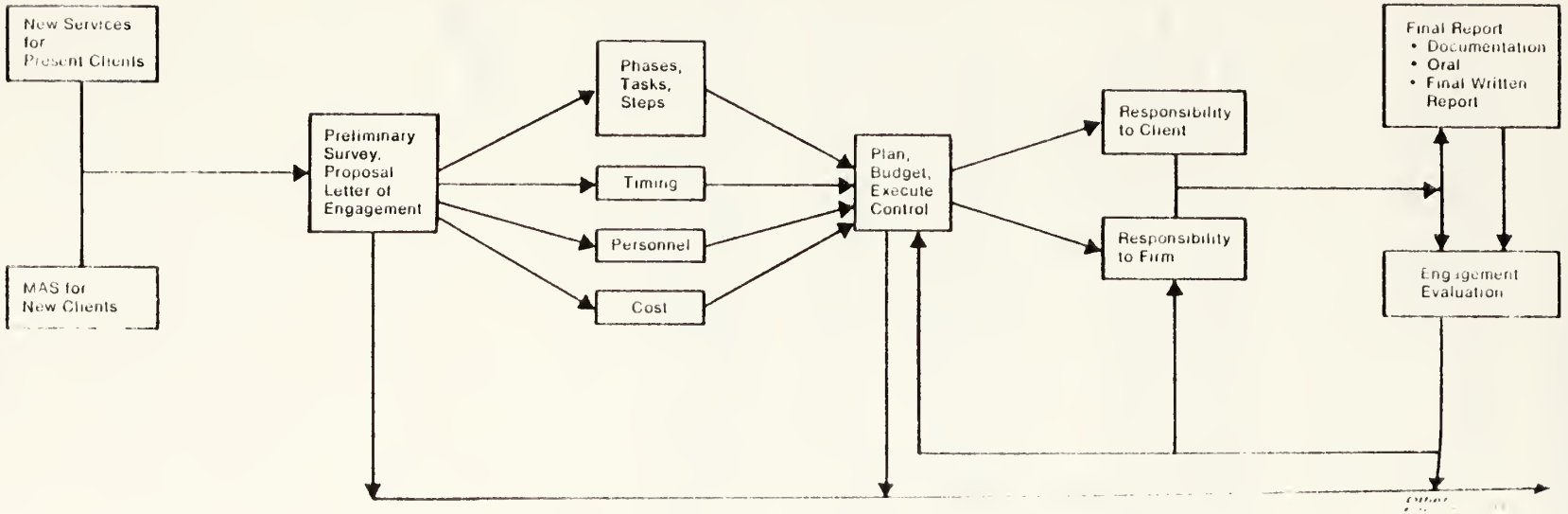
Management science

(Short explanations and references are representative and not exhaustive)

Summary Descriptions	Level 1 References	Level 2 References
1. *Management Science Problem Solving Frame of Reference*—Nature of management science knowledge and processes; use of management science knowledge in problem structuring, identifying acceptable strategies, and developing control benchmarks for performance appraisal; the operations research group; stages in an operations research undertaking	*Fundamentals of Operations Research*, Ackoff & Sasieni (Wiley, 1968). Chs. 1,2,3,4,17. *Principles of Operations Research*, 2d ed., Wagner (Prentice-Hall, 1975). Chs. 1,22.	*Introduction to Operations Research*, Churchman, Ackoff, Arnoff (Wiley, 1957). Chs. 1-7,20,21,22.
2. *Management Science Models*—The major quantitative skills, models, and techniques that are most useful in a variety of management science applications.		
a. *Statistics and Mathematics*—Decision analysis and probability theory, especially as support for models or services in other areas such as industrial quality control, product reliability calculation, and analysis of competitive situations, and service level evaluation.		

Summary Descriptions	Level 1 References	Level 2 References
(1) *Statistical decision theory*—Utility theory; states of nature; alternatives; the "best" alternative; decision rules; the "best" decision rule; certainty and uncertainty; criteria for decision making under uncertainty.	*Statistical Analysis for Business Decisions*, Peters & Summers (Prentice-Hall, 1968). Ch. 10.	*Games and Decisions*, Luce & Raiffa (Wiley, 1957). Chs. 2,13.
(2) *Probability theory*—Interpretations of uncertainty; basic probability theorems; important probability theorems such as the binomial, normal, Poisson, beta, and gamma distributions and their major characteristics and applications.	*Statistical Analysis for Business Decisions*, Peters & Summers (Prentice-Hall, 1968). Chs. 1,2,3.	*Statistical Analysis for Business Decisions*, Peters & Summers (Prentice-Hall, 1968). Chs. 4,5,6.
(3) *Sampling*—Sampling distributions; design or selection of single, double, or sequential sampling plans; simple random, stratified, and cluster sampling; interpretation of sampling results.	*Statistical Analysis for Business Decisions*, Peters & Summers (Prentice-Hall, 1968). Chs. 6,11. *Statistical Sampling for Accounting Information*, Cyert & Davidson (Prentice-Hall, 1962). Chs. 1-10,13.	"A Statistical Interpretation of SAP No. 54," Roberts, *The Journal of Accountancy*, March 1974. "Relating Statistical Sampling to Audit Objectives", Elliot & Rogers, *The Journal of Accountancy*, July 1972, pp. 46-55
(4) *Data relationships*—Regression analysis; multivariate analysis; design of experiments; hypothesis testing and statistical inference; type I and type II errors; use of cumulative probability distributions to accept or reject a hypothesis.	*Statistical Analysis for Business Decisions*, Peters & Summers (Prentice-Hall, 1968). Chs. 7,8,9,14,16.	*Statistical Analysis for Business Decisions*, Peters & Summers (Prentice-Hall, 1968). Chs. 12,13,15,17.
(5) *Matrix models*—Two-person zero-sum games; Markov processes; Leontief (input-output) matrices.	*Introduction to Operations Research*, Hillier & Lieberman (Holden-Day, 1967). Ch. 13.	*Input-Output Economics*, Leontief (Oxford, 1966). Chs. 1,2,7,8,11.
b. *Forecasting*—Use of time series to anticipate future values of variables or relationships among variables in order to predict demand, anticipate economic or financial relationships, or to model complex situations.		
(1) *Smoothing*—Single, double, and triple exponential smoothing; effect of size of smoothing constant; effect of transients such as step, ramp, or impulse change in time series being analyzed.	*Operations Research*, Siemens, Marting, Greenwood (Free Press, 1973). pp. 12-36.	*Operations Research in Production Planning, Scheduling, and Inventory Control*, Johnson & Montgomery (Wiley, 1974). pp. 416-451.
(2) *Time series analysis*—Simple and compound moving averages; dealing with random, seasonal, and cyclical variation; Fourier series analysis; multiple regression analysis.	*Operations Forecasting*, Abramson (ed.) (American Marketing Association, 1967). Entire text.	*Applied Time Series Analysis for Managerial Forecasting*, Nelson (Holden-Day, 1973). Chs. 1,2,3,4,5,7,8.
(3) *Forecasting standards*—If forecasts are of business financial position.	No citation at level 1.	*Guidelines for Systems for the Preparation of Financial Forecasts*, MAS Guidelines Series No. 3 (AICPA, 1975). Entire text.

Summary Descriptions	Level 1 References	Level 2 References
c. *Mathematical Programming and Networks*—Network methods of analyzing complex problems, usually involving a large number of variables and relationships among variables; objective is to optimize some weighted sum of variable values.		
(1) *Linear programming*—Graphical and simplex methods of solution; postoptimality analysis, formulation of major prototype problems such as diet, warehouse, product mix, transportation, and production scheduling; goal programming; linear programming under uncertainty	*Principles of Operations Research*, 2d ed., Wagner (Prentice-Hall, 1975). Chs. 2,3,4,5,6,16.	*Introduction to Operations Research*, Hillier & Lieberman (Holden-Day, 1967). Chs. 5,6,15. *Management Models and Industrial Applications of Linear Programming*, vols. 1 & 2, Charnes & Cooper (Wiley, 1961). Entire text.
(2) *Integer programming*—When integer programming is preferable to ordinary linear programming and methods such as the cutting plane technique of seeking a solution to integer programming problems.	No citation at level 1.	*Introduction to Operations Research*, Hillier & Lieberman (Holden-Day, 1967). Ch. 16.
(3) *Project scheduling and control*—Critical path methods, PERT, PERT-CPM and similar control methods; formulation of project scheduling problems and application of resulting control information to achieve desired combination of overall project cost and completion time.	*Introduction to Operations Research*, Hillier & Lieberman (Holden-Day, 1967). pp. 225-235.	*Fundamentals of Operations Research*, Ackoff & Sasieni (Wiley, 1968). Ch. 11.
(4) *Dynamic programming*—Principle of recursive optimization; problem formulation; continuous and discrete formulations; major prototype applications such as production scheduling and distribution of effort (maximum of two constraints); probabilistic dynamic programming.	*Fundamentals of Operations Research*, Ackoff & Sasieni (Wiley, 1968). Ch. 9.	*Principles of Operations Research*, 2d ed., Wagner (Prentice-Hall, 1975). Chs. 8,9,10
d. *Waiting Line*—Queuing theory; queue discipline; service mechanism; arrivals; dynamic behavior and steady state.	*Introduction to Operations Research*, Hillier & Lieberman (Holden-Day, 1967). pp. 285-304.	*Introduction to Operations Research*, Hillier & Lieberman (Holden-Day, 1967). pp. 304-317, Ch. 11
e. *Inventory Models*—Methods of analyzing relationships between demand and production; concept of inventory policy (order quantity and replenishment point); concept of service level; determining or estimating costs of inventory function.		
(1) *Basic models*—Economic order quantity (with and without stockouts permitted); "bin" method; safety stock; uncertainty in demand rate or order delivery time; sensitivity analysis.	*Introduction to Operations Research*, Hillier & Lieberman (Holden-Day, 1967). Ch. 12.	Same citation as level 1.
(2) *Basic models implementation*—Linking demand forecasting to placing of orders; computer implementation; heuristic models to meet requirements of special situations.	*Principles of Operations Research*, Wagner (Prentice-Hall, 1975). Ch. 19.	*Decision Rules for Inventory Management*, Brown (Holt, Rinehart & Winston, 1967). Entire text.



-MAS Engagement Progression

APPENDIX C
SURVEY QUESTIONNAIRE

Administrative Science Curriculum
Naval Postgraduate School
Monterey, California, 93940

21 October 1981

Dear Practitioner,

As a student at the Naval Postgraduate School, I have selected Management Advisory Services as a thesis research topic. Specifically, my thesis research will address current Management Advisory Services expansion trends by sole proprietor CPA professional practice units, located within the State of California.

I have enclosed a questionnaire for you to complete and return in the preaddressed envelope provided. It should take you no more than fifteen minutes to fill out the entire questionnaire. All information received will be considered as privileged and treated in a strictly confidential manner. Your help in insuring the questionnaire is returned within 7 days will be appreciated greatly.

Thank you for your participation in this survey. If you or members of your staff would like a summary of the survey results, please check the box on the last page of the questionnaire. The brief summary of findings may be of interest to you. Thank you again.

Sincerely,

David G. Hickman
LT, CEC, USN

SOLE PROPIETOR CPA PRACTITIONER MANAGEMENT ADVISORY SERVICE QUESTIONNAIRE

To assist in a fair interpretation of questions regarding Management Advisory Services (i.e. services other than audits, tax work, maintaining accounting records and preparation of financial statements); it is requested that the following information be provided:

1. Are you a CPA in the Stateof California? Yes____ No___ Other accreditation (please specify) _____

   _____

2. For what period of time has your firm (or its predecessor) been in business?

   Less than 5 years----------( )

   5 years up to 10----------( )

   10 years up to 20----------( )

   20 years up to 30----------( )

   30 years or more----------( )

3. How many separate offices does your firm maintain?

   1----------( )

   2 or 3----------( )

   4 or more----------( )

4. Approximately, how many individuals in your firm (in all offices) render professional services, of any kind (independent audits, income tax work, or Management Advisory Services)?

1----------( )

2-5----------( )

6-10----------( )

11-25----------( )

26-30----------( )

31 or more----------( )

5. How many individuals within your firm devote more than 50% of their productive time to Management Advisory Services?

None----------( )

2-5----------( )

6-10----------( )

11-25----------( )

26 or more----------( )

6. Of those individuals engaged in Management Advisory Services, how many are CPAs----------( )

7. Below is a list of college majors. Please put "B" by your bachelor's degree major. If you received a master's degree, put "M" by your master's degree major. If you have a doctorate, please put "D" by your doctorate field of study.

_____ no college degree (insert a check mark if applicable)

_____ business (accounting)

_____ business (management)

_____ business (finance)

_____ business (marketing)

_____ business(statisticsand quantitative methods)

_____ economics

_____ engineering (industrial)

_____ engineering (other)

_____ liberal arts and/or humanities

_____ behavior science (psychology, sociology, etc.)

_____ other (please describe)

8. Please indicate (roughly) your total population of client organizations by ownership type:

Sole proprietorship----------0 to 20% ( )
21 to 40% ( )
41 to 60% ( )
61 to 80% ( )
81 to 100% ( )

Partnership----------0 to 20% ( )
21 to 40% ( )
41 to 60% ( )
61 to 80% ( )
81 to 100% ( )

Publicly owned company---------0 to 20% ( )
21 to 40% ( )
41 to 60% ( )
61 to 80% ( )
81 to 100% ( )

9. Of your total client base, please indicate the relative size of these organizations from the viewpoint of their total operating revenues

$0 to $100,000.	0 to 20%	( )
	21 to 40%	( )
	41 to 60%	( )
	61 to 80%	( )
	81 to 100%	( )
$100,000. to $500,000.	0 to 20%	( )
	21 to 40%	( )
	41 to 60%	( )
	61 to 80%	( )
	81 to 100%	( )
$500,000. to $1,000,000.	0 to 20%	( )
	21 to 40%	( )
	41 to 60%	( )
	61 to 80%	( )
	81 to 100%	( )
$1,000,000. to $10,000,000	0 to 20%	( )
	21 to 40%	( )
	41 to 60%	( )
	61 to 80%	( )
	81 to 100%	( )
over $10,000,000	0 to 20%	( )
	21 to 40%	( )
	41 to 60%	( )

61 to 80% ( )

81 to 100% ( )

10. Roughly what percentage of your firms total professional time is accounted for by each of the functions below (Percentages should add to 100%).

Audits----------( )

Taxes----------( )

Accounting Services (maintaining accounting records, preparation of financial statements----------( )

Management Advisory Services----------( )

Other Services----------( )

11. Please indicate those component service areas of Management Advisory Service which your firm becomes actively involved with by placing a check mark beside the respective component area(s).

__accounts payable
__accounts receivable
__acquisitions, mergers, and divestments
__annual financial planning and budgeting
__applications software development
__billing and credit
__cash management
__clerical systems and forms
__clerical work methods and simplification
__computer operations evaluations
__cost accounting and allocation
__cost standards
__lease or buy analysis
__long-range financial planning
__long-range planning
__management audit
__management controls and report
__order entry
__organization structure and policy
__payroll and labor distribution
__performance reporting
__policy and procedure manuals
__product profitability
__property
__report design and installation
__return on investment studies

__customer order processing
__data communications
__economic and feasibility studies
__equipment evaluation
__financial reporting
__financing, selecting sources of capital
__form design and installation
__fund accounting
__general accounting
__goals and objectives studies
__information flow studies
__information systems
__inventory control
__revenue accounting
__sales forecasting, demand plans,
__software evaluation
__systems and procedures design, analysis and documentation (EDP and manual)
__systems and procedures installations (EDP and manual
__systems test and conversion preparation

12. Are Management Advisory Services a separate function and formal department in your firm or are they incidental to and an intregal part of your overall service?

Separate function, department----------( )

Part of overall service----------( )

13. Please indicate the manner in which your clients are billed for Management Advisory Services performed:

As a separate charge----------( )

As part of total service without identification----------( )

14. Please indicate how Management Advisory Services have changed as a percentage of your firm's total business over the last five years:

0 to 5% increase----------( )

6 to 10%----------( )

11 to 20%----------( )

21 to 50%----------( )

Greater than 50%----------( )

15. As a percentage of your firm's total business, at what rate do you expect Management Advisory Services to grow (assuming you do not anticpate an overall decline)?

0 to 5% increase----------( )

6 to 10%----------( )

11 to 20%----------( )

21 to 50%----------( )

Greater than 50%----------( )

16. On the rating scale below, please circle the relative desire of your firm to increase the range of Management Advisory Services (i.e. increase the variety of services provided to your clients).

No desire to increase range									Extremely high desire to increase range of services
1	2	3	4	5	6	7	8	9	10

17. On the rating scale below, please circle the relative desire of your firm to increase your present client base (i.e. number of clients) through the offering of Management Advisory Services.

No desire to increase range									Extremely high desire to increase range of services
1	2	3	4	5	6	7	8	9	10

18. Below are listed several factors which might be perceived as factors that may limit a CPA firm's ability to expand into or present Management Advisory Services. Please check those factors which you feel would most significantly limit your firm's expansion of MAS activities.

Lack of adequate internal staff----------( )

Insufficient capital and facilities------( )

Inadequate client demand for Management Advisory Services----------( )

Insufficient staff training/education----( )

Incompatibility with "independence" and/or professional ethics----------( )

Other reason(s) (please specify)

_____

_____

_____

_____

19. Does your firm tend to specialize in certain areas of Management Advisory Services?

Yes ( ) No ( )

20. If the answer to the above question is marked "Yes", please briefly indicate below, those areas of your firm's specialization_____

_____

_____

_____

_____

21. In your opinion, is there a problem of recognition by your client organizations of the need for supplemental management advice?

Yes ( ) No ( ) Sometimes ( )

22. If your firm offers Management Advisory Services (regardless of extent or area(s) of specialization), is it necessary for you to "educate" your clients regarding your skills and the benefits that can be derived if they retain your firm for management consultant needs?

Yes ( ) No ( ) Sometimes ( )

23. Does your firm advertize for performance of:

Independent Audit Work---------Yes ( ) No ( )

Tax Services-------------------Yes ( ) No ( )

Accounting Services (maintaining accounting records, preparing financial statements----------Yes ( ) No ( )

Management Advisory Services---Yes ( ) No ( )

Other Services-----------------Yes ( ) No ( )

24. If you answered yes to any of the items in the above question; have you found advertizing to be beneficial from the viewpoint of increasing overall office workload?

Yes ( ) No ( ) Cannot determine ( )

25. In your opinion, can advertizing be used as an effective means of helping a CPA practitioner expand his or her Management Advisory Service activities?

Yes ( ) No ( ) Cannot determine ( )

26. If your clients have Management Advisory Service needs of a nature which may be unique or beyond your area of expertise, have or would you refer these clients to:

Other CPA firms which possess the desired level of expertise

Yes ( ) No ( ) Sometimes ( )

Other professionals, colleges/universities, or equipment suppliers

Yes ( ) No ( ) Sometimes ( )

27. If your firm does not normally refer clients for Management Advisory needs, please indicate a general reason for not doing so_____

_____

_____

28. In your opinion, should sole proprietor CPA firms adequately prepared to handle a wide range of Management Advisory Services or limit their activities to specific specialized areas within the general management field?

Yes ( ) No ( ), CPAs should be prepared to deal with a wide range of Management Advisory Services.

Yes ( ) No ( ), CPAs should limit their Management Advisory Services to very specific and specialized areas.

29. Based on your education and professional experience, do you feel that CPAs are in a better position to provide Management Advisory Services than any other professional "management consultant"?

Yes ( ) No ( ) Maybe ( )

Thank you for your cooperation. Now that the questionnaire is completed, please place it in the self-addressed envelope provided so it may be returned as promptly as possible.

Please check Yes ( ) if your firm would like a summary of the survey results forwarded to your firm's office. Please indicate your mailing address below.

LIST OF REFERENCES

1. Interview with Professor Larry Kreiser, Department of Accounting, Cleveland State University, on 18 September 1981.

2. Wellington, Roger, "Enlarging a Practice Through Management Services," Accountants Encyclopedia, Englewood Cliffs, NJ: Prentice-Hall, 1962.

3. Summers, Edward L. and Knight, Kenneth E., Management Advisory Services by CPAs, New York: American Institute of Certified Public Accountants, 1976.

4. The Roper Organization, Inc. "A Study of Management Advisory Services Performed by CPA Firms" (Survey), Prepared for the American Institute of Certified Public Accountants, August, 1978.

5. American Institute of Certified Public Accountants, "MAS-BOKE CPA Firm Survey", New York, American Institute of Certified Public Accountants, July, 1974.

6. _____. Management Services Handbook, New York: American Institute of Certified Accountants, 1964.

7. Carey, John L. Professional Ethics of Certified Public Accountants.,New York: American Institute of Certfied Public Accountants, 1956.

8. Meigs, Walter B., Jansen, John E., and Meigs, Robert F., Principles of Auditing, Homewood Il, Irwin, 1977.

9. Redfield, James, "A Study of Management Services by CPAs," Bureau of Business Research, University of Texas at Austin, Austin Texas, 1961.

10. American Institute of Certified Public Accountants, MAS Executive Committee. Statements on Management Advisory Services.,New York: American Institute of Certified Public Accountants, 1974.

11. Roy, Robert H. and MacNeil, James H.,Horizons for a Professional,New York: American Institute of Certified Public Accountants, 1967.

12. Murphy, Mary Elizabeth.,Advanced Public Accounting Practice,Homewood, Il: Irwin, 1966.

13. American Institute of Certified Public Accountants "Profession Ethics", 1978.

14. SEC, Rule 2.VI of Reg. SX.

15. The California Society of Certified Public Accountants, Directory of Members, August 1980, "CPA Firms and Proprietors", Palo Alto, CA.

16. Brooks, Ralph M., Carpenter, Edwin H., Christenson, James A., and Dillman, Don A., "Increasing Mail Questionnaire Response," American Sociological Review, 1974, Vol. 39, October.

SELECTED BIBLIOGRAPHY

The following bibliography has been compiled by the author for the purpose of providing a comprehensive reference source for those sole proprietor public accounting firms involved in Management Advisory Service engagements.

CPA profession and business

American Institute of Certified Public Accounts. AICPA Professional Standards Ethics, Bylaws. vol.2 New York: American Institute of Certified Public Accountants, 1978.

Bierman, Harold, Jr.; Bonini, Charles P.; and Hauseman, Warren H., Quantitative Analysis for Business Decisions 4th ed. Homewood, IL: Irwin, 1973.

Buckley, John W., and Buckley, Marlene H.The Accounting Profession. Los Angeles, CA: Melville, 1974.

Buffa, Elwood S. and Taubert, William H. Production-Inventory Systems: Planning and Control. Rev. ed. Homewood, IL: Irwin, 1972.

Carey, John L. The Rise of the Accounting Profession. New York: American Institute of Certified Public Accountants, 1970.

_____. ed. The Accounting Profession: Where Is It Headed? New York: American Institute of Certified Public Accountants, 1962.

Cole, Charles L., Microeconomics: A Contemporary Appraoch, New York: Harcourt, Brace Jovanovich, Inc., 1973.

Corley, Robert N., and Robert, William J. Principles of Business Law. Englewood Cliffs, NJ: Prentice-Hall, 1975.

Daniels, Alan, and Yeates, Donald, eds. Systems Analysis. Palo Alto, CA: Science Research Associates, 1971.

A Description of the Professional Practice of Certified Public Accountants." Journal of Accountancy, December 1966, p.61.

Furoi, William M. Introduction to the Computer: The Tool of Business. Englewood Cliffs, NJ: Prentice-Hall, 1973.

Garrison, Ray, Managerial Accounting: Concepts for Planning, Control, and Decision Making. Dallas: Irwin-Dorsey; 1979.

Haeussler, Ernest F. Jr., and Paul, Richard S. Introductory Mathematical Analysis for Students of Business and Economics. 3rd Ed. Reston, VA: Prentice-Hall, 1980.

Hampton, David R.; Summer, Charles E.; Webber, Ross A., eds. Organizational Behavior and the Practice of Management. Glenview, IL: Scott Foresman, 1973.

Holmes, Arthur W., and Overmyer, Wayne S. Auditing: Principals and Procedure. 7th ed. Homewood, IL: Irwin, 1971.

Jucius, Michael. Personnel Management. Homewood, IL: Irwin.1971.

Kast, Fremont E., and Rosenzweig, James E., eds. Organization and Management: A Systems Approach. 2d ed. New York: McGraw-Hill, 1974.

Kogiku, Kiichiro C. Microeconomic Models. New York: Harper & Row, 1971.

Koontz, Harold, and O'Donnell, Cyril. Principles of Management: An Analysis of Managerial Functions. 5th ed. New York: McGraw-Hill, 1972.

Kotler, Phillip. Marketing Management: Analysis, Planning and Control. 2d Ed. Englewood Cliffs, N.J.: Prentice-Hall, 1972.

Lapin, Lawrence L. Statistics for Modern Business Decisions. New York: Harcourt Brace Jovanovich, 1973.

Mann, Roland, ed. The Arts of Top Management. New York: McGraw-Hill, 1971.

Meigs, Walter B.; Mosich, A. N.; Johnson, Charles E.; and Keller, Thomas F. Intermediate Accounting. 3d ed. New York: McGraw-Hill, 1974.

Meigs, Walter B.; Jarsen, John E.; and Meigs, Robert F. Principles of Auditing. Homewood, IL; Irwin, 1977.

Moore, Carl L., and Jaedicke, Robert K. Managerial Accounting. 3d ed. Cincinnati: South-Western, 1972.

Murphy, Mary Elizabeth. Advanced Public Accounting Practice. Homewood, IL: Irwin, 1966.

Ofshe, Richard J., ed. Interpersonal Behavior in Small Groups. Englewood Cliffs, NJ: Prentice-Hall, 1973.

Rappaport, Louis H. SEC Accounting Practice and Procedure. 3d ed. New York: Ronald, 1972.

Samuelson, Paul A. Economics. 9th ed. New York: McGraw-Hill, 1973

Senger, John. Individuals, Groups, and the Organization. Cambridge, Mass: Wintrhop Publishers, Inc., 1980.

Shafritz, Jay M. and Witbeck, Philip H. Classics of Organizational Theory. Oak Park, IL: More Publishing, Inc., 1978.

Shapiro, Edward. Macroeconomic Analysis 3d ed. New York: Harcourt Brace Jovanovich, 1974.

Van Horne, James C. Financial Management and Policy. 3d ed. Englewood Cliffs, NJ: Prentice-hall, 1974.

Zweig, Jeanne. Accountant's Office Manual and Practice Guide. Englewood Clifss, NJ: Prentice-Hall, 1969.

The consulting art

American Institute of Certified Public Accountants. Documentation Guides for Administration Of Management Advisory Services Engagements. (Management Advisory Services Guidelines Series No. 2) New York: American Institute of Certified Public Accountants, 1971.

_____. Guidelines for Administration of the Management Advisory Services Practice. (Management Advisory Services Guidelines Series No. 1.) New York: American Institute of Certified Public Accountants, 1968.

_____. MAS Executive Committee. Statements on Management Advisory Services. New York: American Institute of Certified Public Accountants, 1974.

Brown, Leland. Effective Business Report Writing. 3d ed. Englewood Cliffs, NJ: Prentice-Hall, 1973.

Cohen, Morris R., and Nagel, Ernest. An Introduction to Logic and the Scientific Method. New York: Harcourt, Brace & Co., 1936.

Joplin, Bruce, and Patillo, James W. Effective Accounting Reports. Englewood Cliffs, NJ: Prentice-Hall, 1969.

Levoy, Robert P. The Successful Professional Practice. Englewood Cliffs, NJ: Prentice-Hall, 1970.

Lindauer, J. S. Communicating in Business. New York: Macmillan, 1974.

Mambert, W.A. Presenting Technical Ideas: A Guide to Audience Communication. New York: Wiley, 1968.

Schein, Edgar H. Process Consultation: Its Role In Organization Development. Reading, MA: Addison-Wesley, 1969.

Shay, Philip W. How to Get the Best Results from Management Consultants. New York: Association of Consulting Management Engineers, 1974.

Walley, B. H. Management Services Handbook. London: Business Books, 1973.

Whiteside, Conon D. Accountant's Guide to Profitable Management Advisory Services. Englewood Cliffs, NJ: Prentice-Hall, 1969.

Executive planning, implementation, and control

Ackoff, Russell L. A Concept of Corporate Planning. New York Wiley-Interscience, 1970

Anthony,RobertN.Planning and Control System: A Framework for Analysis. Cambridge, MA: Harvard University Press, 1965.

Backman, Jules, ed. Business Problems of the Seventies. New York, New York University Press, 1973.

Barnard, Chester. The Functions of the Executive. Cambridge, MA: Harvard University Press, 1968.

Bartlett, Alton C., and Kayser, Thomas A., eds. Changing Organizational Behavior. Englewood Cliffs, NJ: Prentice-Hall, 1970.

Bass, Bernard M., and Deep, Samuel D., eds. Current Perspectives for Managing Organizations. Englewood Cliffs, NJ: Prentice-Hall, 1970.

Blau, Peter M., and Scott, W. Richard, Formal Organizations. San Francisco, CA: Chandler Publishing, 1962.

Broom, Halsey, and Longenecker, Justin. Small Business Management. 3d ed. Cincinnati: South-Western, 1971.

Chambers, John; Mullick, Satinder; and Smith, Donald. An Executive's Guide to Forecasting. New York: Wiley-Interscience, 1974.

Dale, Ernest. Management: Theory and Practice. 2d 3d. New York: McGraw-Hill, 1969.

_____. Organization. New York: American Management Association, 1967.

Dalton, Gene W.; Laurence, Paul R.; and Lorsch, Jay W. Organizational Structure and Design. Homewood, IL: Irwin, 1970.

Drucker, Peter F. Managing for Results: Economic Tasks and Risk-Taking Decisions. New York: Harper & Row, 1964.

Ewing, David W., ed. Long-Range Planning for Management. 3d ed. New York: Harper & Row, 1972.

Finkle, Robert, and Jones, William. Assessing Corporate Talent: A Key to Managerial Manpower Planning . New York: Wiley- Interscience, 1970.

Fortune Editors. Challenges for Business in the 1970s. Boston: Little, Brown & Co., 1972.

Fox, Byron, and Fox, Eleanor. Corporate Acquisitions and Mergers. New York: Mathew Bender & Co., 1974.

Harvey, John L., and Newgarden, Albert, eds. Management Guides to Mergers and Acquisitions. New York: Wiley-Interscience, 1969.

Hennessy, J. H., Jr. Acquiring and Merging Businesses. Englewood Cliffs, NJ: Prentice-Hall, 1966.

Husband, William H., and Dockeray, James C. Modern Corporation Finance. 7th ed. Homewood, IL: Irwin, 1972.

Hutchison, G. Scott, ed.The Strategy of Corporate Financing. New York: Hawthorn Books, 1971.

Lewis, Ronello B. Financial Analysis for Management. Englewood Cliffs, NJ: Prentice-Hall, 1959.

Lippitt, Gordon. Organization Renewal: Achieving Viability In a Changing World. New York Appleton-Century-Crofts, 1969.

McGregor, Douglas. The Human Side of Enterprise. New York: McGraw-Hill, 1960.

McGuire, Joseph W. Theories of Business Behavior. Englewood Cliffs, NJ: Prentice-Hall, 1964.

McCarthy, Daniel J.; Minichiello, Robert J.; and Curran, Joseph R. Business Policy and Strategy. Homewood, IL: Irwin, 1979.

Merrill, Harwood F., ed. Classics in Management. New York American Management Association, 1970.

Murdick, Robert G., and Demming, Donald D. The Management Capital Expenditures. New York: McGraw-Hill, 1968.

Paine, Frank T., and Naumes, William. Strategy and Policy Formation: An Integrative Approach. Philadelphia: W. B. Saunders, 1974.

Robock, Stefan H., and Simmonds, Kenneth.International Business and Multinational Enterprises. Homewood. IL: Irwin, 1973.

Sayles, Leonard R. Managerial Behavior: Administration in Complex Organization. New York: McGraw-Hill, 1964.

Schmuckler, Eugene. "The Personnel Audit: Management's Forgotten Tool." Personnel Journal. November 1973, pp. 977-980.

Sethi, S. Prakash, and Holton, Richard H., eds. Management of the Multinationals: Policies, Operations, and Research.

Smith, George A., Jr.; CHristensen, C. Roland; Berg, Norman A.; and Salter, Malcolm S. Policy Formulation and Administration. 6th ed. Homewood, IL: Irwin, 1972.

Steiner, George A. top Management Planning. New York: Macmillan, 1969.

Stokes, Paul M. A Total Systems Approach to Management Control. New York: American Management Association, 1968.

Tanenbaum, Arnold S., ed. Control in Organizations. New York: McGraw-Hill, 1968.

Thompson, James D. Organizations in Action. New York: McGraw-Hill, 1967.

Van Horne, James C. Financial Management and Policy. 3d ed. Englewood Cliffs, NJ: Prentice-Hall, 1974.

Weber, Ross A. Management: Basic Elements of Managing Organizations. Homewood, IL Irwin, 1979.

Wilcox, Clair and Shepherd, William G. Public Policies Towards Business. 4th ed. Homewood, IL: Dow Jones-Irwin, 1971.

Williams, M.R. Performance Appraisal in Management. London: Heinemann, 1972.

Wren, Daniel A. The Evolution of Management Thought. New York: Ronald, 1972.

Finance and accounting

American Institute of Certified Public Accountants. Accounting Principles Board. Basic Concepts and Accounting Principles Underlying Financial Statements of Business Enterprises (Ac- counting Principles Board Statement No. 4. New York: Ameri can Institute of Certified Public accountants, 1970.

_____. Analysis for Purchasing and Financing Productive Equipment. (Management Advisory Services Technical Study No. 4.) New York: American Institute of certified Public Accountants, 1967.

_____. Management Information Systems for the Smaller Business. (Management Advisory Services technical Study No. 8) New York: American Institute of certified Public Accountants, 1969.

Anthony, Robert N. Management Accounting: Text and Cases. 4th ed. Homewood, IL: Irwin, 1970.

Beyer, Robert, and Trawicki, Donald J. Profitability Accounting for Planning and Control. 2d ed. New York: Ronald, 1972.

Bierman, Harold, Jr., and Smidt, Seymour. The Capital Budgeting Decision: Economic Analysis and Financing of Investment Projects. 3d ed. New York: Macmillan, 1971.

Bower, James B.; Schlosser, Robert E.; and Zlatkovich, Charles T. Financial Information Systems: Theory and Practice Bos ton: Allyn & Bacon, 1969.

Cadmus, Bradford, and Child, Arthur J. Internal Control Against Fraud and Waste. New York: Prentice-Hall, 1953.

Davidson, Sidney, ed. Handbook of Modern Accounting. New York: McGraw-Hill, 1970.

Easton, Allan, and broser, Arnold, eds. Conference on Mergers and Acquisitions, Hofstra University. Berkeley, CA : McCuchan, 1970.

Gillespie, Cecil. Accounting Systems: Procedures and Methods. 3d ed. Englewood Cliffs, NJ: Prentice-Hall, 1971.

Goodman, Sam R., ed. Corporate Treasurer's and Controller's Encyclopedia. Rev. ed. Englewood Cliffs, NJ: Prentice-Hall, 1975.

Griffin, Charles H; Williams, Thomas H.; and Larson, Kermit D. Advanced Accounting. Rev. ed. Homewood, IL: Irwin, 1971.

Horngren, Charles T. Cost Accounting: A Managerial Emphasis. 3d ed. Engelwood Cliffs, NJ: Prentice-Hall, 1972.

Hunt, Pearson; Williams, Charles M.; and Donaldson, Gordon. Basic Business Finance. 4th ed. Homewood, IL: Irwin, 1971.

Kennedy, Ralph D., and McMullen, Stewart Y. Financial Statements Form, Analysis, and Interpretation. 6th ed. Homewood, IL: Irwin, 1973.

Livingstone, John L., and Kerrigan, Harry D. Modern Accounting Systems. 4th ed. New York: Ronald, 1975.

Lock, Dennis. Complete Guide to Project Management. Boston: Cahners, 1969.

Lyden, Fremont J., and Miller, Ernest G., eds. Planning, Programming, Budgeting: A Systems Approach to Management. 2d ed. Chicago: Markham Publishing Co, 1972.

Mauser, Ferdinand F., and Schwartz, David J. American Business: An Introduction. 3d ed. New York: Harcourt Brace Jovanovich, 1974.

Meigs, Walter B.; Mosich, A. N.; Johnson, Charles; and Keller, Thomas. Intermediate Accounting. 3d ed. New York: McGraw- Hill, 1974.

Meigs, Walter B.; Larsen, John E.; and Meigs, Robert F., Principles of Auditing, Homewood, IL: Irwing, 1977.

Moore, Carl L, and Jaedicke, Robert K. Managerial Accounting. 3d ed. Cincinnati: South-Western, 1972.

National Association of Accountants. Financial Analysis to Guide Capital Expenditure Decisions. (Research Report 43.) New York: National association of Accountants, 1967.

Novick, David, ed. Program Budgeting: Program Analysis and the Federal Budget 2d ed. New York: Holt, Rinehart & Winston, 1969.

Pyle, William W., and Larson, Kermit D. Financial Accounting. Homewood, IL: Irwin, 1980.

Sommerfeld, Raynard M.; Anderson, Hershel M.; and Brock, Horace R. An Introduction to Taxation. 2d ed. New York: Harcourt Brace Jovanovich, 1972.

Staubus, George J. Activity Costing and Input-Output Accounting. Homewood, Il: Irwin, 1971.

Summers, Edward L. An Introduction to Accounting for Decision Making and Control. Homewood, IL: Irwin, 1974.

Tracy, John A. Fundamentals of Financial Accounting. New York: Wiley, 1973.

U. S. Treasury Department, Internal Revenue Service. Tax Guide For Small Business. Revised yearly.

Vancil, Richard F. Leasing of Industrial Equipment. New York: McGraw-Hill, 1963.

Vatter, William J. Accounting Measurements for Financial Reports. Homewood, IL: Irwin, 1971.

Welsch, Glenn A. Budgeting: Profit Planning and Control. 3d ed. Englewood Cliffs, NJ: Prentice-Hall, 1971.

Weston, J. F., and Brigham, Eugene F. Essentials of Managerial Finance. 3d ed. Hinsdale, IL: Dryden Press, 1974.

American Institute of Certified Public Accountants. Guidelines for Development and Implementation of Computer-Based Application Systems. (Management advisory Services Guidelines Series No. 4.) New York: American Institute of Certified Public Accountants, 1976.

Albrecht, Leon K. Organization and Management of Information Processing Systems. New York: Macmillan, 1973.

Boutell, Wayne S. computer-Oriented Business Systems. 2d ed. Englewood Cliffs, NJ: Prentice-Hall, 1973.

Burch, John G., and Strater, Felix R. Information Systems: Theory and Practice. Santa Barbara, CA: Hamilton Publishing Co., 1974.

Cagan, Carl. Data Management Systems. Los Angeles: Melville Publishing Co., 1973.

Canadian Institute of Chartered Accountants. Computer Control Guidelines. Toronto, Canada; Canadian Institute of Charteed Accountants, 1970.

Chapin, Ned. Computers: A systems Approach. New York: Van Nostrand Reinhold, 1971.

Clark, Frank J.; Gale, Ronald; and Gray, Robert. Business Systems and Data Processing Procedures. Engelwood Cliffs, NJ: Prentice-Hall, 1972.

Davis, Gordon B. Computer Data Processing. New York: McGraw Hill, 1973.

_____. Management Information Systems: Conceptual Foundations, Strucure and Development. New York: McGraw-Hill, 1974.

Ditri, Arnold E.; Shaw, John C.; and Atkins, William. Managing the EDP Function. New York: McGraw-Hill, 1971.

FitzGerald, John M., and FitzGerald, Ardra F. Fundamentals of Systems Analysis. New York: Wiley, 1973.

Keen, Peter G. W. and Morton, Michael S. Scott, Decision Support Systems: An Organizational Perspective. Reading, MA: Addison-Wesley, 1978.

Kindred, Alton R. Data Systems and Management: An Introduction to Systems and Design. Englewood Cliffs, NJ: Prentice-Hall, NJ: Prentice-Hall, 1973.

Krauss, Leonard I. Administering and Controlling the Company Data Procesing Function. Englewood Cliffs, NJ: Prentice-Hall, 1969.

_____. Computer-Based Management Information Systems. New York: American Management Association, 1970.

London, Keith R. Documentation Standards. Rev. ed. New York: Petroceli Books, 1974.

Mader, Chris Information Systems: Technology, Economics, Applications, Management, 2nd ed. Chicago: Science Research Associates, Inc., 1979.

Martin, James T. Security, Accuracy and Privacy in Computer Systems. Englewood Cliffs, NJ: Prentice-Hall, 1973.

_____. Systems Analysis for Data Transmission. Englewood Cliffs, NJ: Prentice-Hall, 1972.

McFarlan, F. Warren; Nolan, Richard L; and Norton, David P. Information Systems Administration. New York: Holt, Rinehart & Winston, 1973.

Metzger, Phillip W. Managing a Programming Project. Englewood Cliffs, NJ: Prentice-Hall, 1973.

Murdick, Robert G., and Ross, Joel E. Information Systems for Modern Management. 2d ed. Englewood Cliffs, NJ: Prentice-Hall, 1975.

Porter, W. Thomas. EDP: Controls and-Auditing. Belmont, CA. Wadsworth Publishing, 1974.

Rubin, Martin L., and Harrell, Thomas, eds. Data Processing Administration. Handbook of Data Processing Management, vol. 6 Princeton, NJ: Brandon Systems Press, 1971.

Szweda, Ralph A. Information Processing Management. Princeton, NJ: Auerbach, 1972.

Van Tassel, Dennis Computer Security Management. Englewood Cliffs, NJ: Prentice-Hall, 1972.

Voich, Dan, Jr.; Mottice, Homer J.; and Shrode, William A. Information Systems for Operations and Management. Cincinna ti: South-Western, 1975.

Wadsworth, M. D. The Human Side of Data Processing Management. Englewood Cliffs, NJ: Prentice-Hall, 1973.

Withington, Frederic G. The Organization of the Data Processing Function. New York: Wiley-interscience, 1972.

Wooldridge, Susan Software Selection. Philadelphia: Auerbach, 1973.

Yourdon, Edward. Design of On Line Computer Systems. Englewood Cliffs, NJ: Prentice-Hall, 1972.

Operations

American Institute of Certified Public Accountants. Practical Techniques and Policies for Inventory Control. (Management advisory Services Technical Study No. 6.) New York: American Institute of certified Public Accountants, 1968.

_____. Production Scheudling. (Management Advisory Services Technical Study No. 9.) New York: American Institute of Certified Public Accountants, 1973.

Ajian, George W., ed. Purchasing Handbook. 3d ed. New York: McGraw-Hill, 1973.

Ammer, Dean S. Materials Management. 3d ed. Homewood, IL: Irwin, 1974.

Apple, James M. Material Handling Systems Design. New York: Ronald, 1972.

Arnstein, William E.Management Services by Accounting Firms. New York: Ronald, 1967.

Barnes, Ralph M. Motion and Time Study: Design and Measurement of Work. 6th ed. New York: Wiley, 1968.

Buffa, Elwood S., and Taubert, William H. Production-Inventory Systems: Planning and Control. Rev. ed. Homewood, IL: Irwin, 1972.

Carson, Gordon B.; Bolz, Harold A.; andYoung, Hewitt H., eds. Production Handbook. 3d ed. New York: Ronald, 1972.

Chambers, Harry T. Office Planning for Profit. London: Business Books, 1972.

England, Wilbur B. Modern Procurement Management. 5th ed. Homewood, IL: Irwin, 1970.

Greene, James H., ed. Production and Inventory Control Handbooks. New York: McGraw-Hall, 1970.

Heyel, Carl, ed. Handbook of Modern Office Management and Administrative Services. New York: McGraw-Hill, 1972.

Holt, K. C. and Hume, J.N.P. Fundamentals of Structured Programming: Using Fortron with SF/KandWATFIV-S, Reston, VA: Reston Publishing Co. Inc., 1977.

Juran, Joseph M. Quality Conrol Handbook. New York: McGraw-Hill, 1970.

_____. and Gryna, Frank M. Quality Planning and Analysis: From Product Development Through Usage. New York: McGraw- Hill, 1970.

Kanter, Jerome, Management-Oriented Management Information Systems. Englewood Cliffs, NJ: Prentice-Hall, 1972.

Lazzarro, Victor, ed. Systems and Procedures: A Handbook for Business and Industry. 2d ed. Englewood Cliffs, NJ: Prentice-Hall, 1968.

Lee, Lamar, Jr. and Dobler, Donald W. Purchasing and Materials Management: Text and Cases, 3rd ed. New York: McGraw-Hill, 1977.

Maedke, Wilmer O.; Robek, Mary F.; and Brown, Gerald F. Information and Records Management. Beverly Hills, CA: Glencoe Press, 1974.

Magee, John F., and Boodman, D. M. Production Planning and Inventory Control. 2d ed. New York: McGraw-Hill, 1967.

Maynard, Harold B., ed. Handbook of Modern Manufacturing Management. New York: McGraw-Hill, 1970.

Moore, Franklin G. Manufacturing Management. 4th ed. Homewood, IL: Irwin, 1965.

Neuner, John W.; Keeling, B. Lewis; and Kallaus, Norman F. Administrative Office Management. 6th ed. Cincinnati: South-Western, 1972.

Newbrough, E. T. Effective Maintenance Management Organization Motivation, and Control in Industrial Maintenance. New York: McGraw Hill, 1967.

O'Brien, James J. Scheduling Handbook. New York: McGraw-Hill,1969.

Orlicky, Joseph, Materials Requirements Planning: The New Way of Life in Production and Inventory Management. New York: McGraw-Hill, 1975.

Patton, John A.; Littlefield, C. L.; and Self, Stanley A. Job Evaluation: Text and Cases. 3d ed. Homewood, IL: Irwin, 1964.

Payne, Bruce, and Swett, David D. Office Operations Improvements: How to Cut Costs and Improve Morale. American management Association, 1967.

Plossl, G., and Wright, O., Production and Inventory Control: Principles and Techniques. Englewood Cliffs, NJ: Prentice-Hall, 1967.

Reed, Ruddell. Plant Location, Layout, and Maintenance, Homewood, IL: Irwin, 1967.

Ripnen, Kenneth H. Office Space Admnistration. New York: McGraw-Hill, 1974.

Seltz, David D. How to Prepare an Effective Company Operations Manual. Chicago The Dartnell Corp., 1974.

Westwick, C. A. How to Use Management Ratios. Epping, Essex: Gower Press, 1973.

White, Anthony. Management Objectives In Office Design: Planning and Implementation. London: Industrial & Commercial Techniques, 1971.

Wikstrom, Walter S. Manpower Planning: Envolving Systems. New York: The Conference Board, 1971.

Human resources

Beach, Dale. Personnel: The Management of People at Work. 3d ed. New York: Macmillan, 1975.

Benton, Lewis R. A Guide to Creative Personnel Management. Englewood Cliffs, NJ: Prentice-Hall, 1962.

Bryant, Donald R.; Maggard, Michael J.; and Taylor, Robert P. "Manpower Planning Models and Techniques." Business Horizons. April 1973, pp. 69-78.

Cheeks, James. How to Compensate Executives. Homewood, IL: Dow Jones-Irwin, 1974.

Dun's Reference Book of Corporate Management. New York: Dun & Bradstreet Financial Service, 1975.

Flippo, Edwin B. Principles of Personnel Management. 3d ed. New York: McGraw-Hill, 1971.

Jucius, Michael J. Personnel Management. 8th ed. Homewood, Il: Irwin, 1975.

Kennedy, James H., ed. The Handbook of Executive Search. Fitzwilliam, N.H.: Consultants News, 1974.

Levin, Noel A. Successful Labor Relations: An Employer's Guide. Rev. ed. New York: Fairchild, 1967.

Lynton, Rolf, and Pareek, Udai. Training for Development. Homewood, IL: Irwin, 1967.

Maher, John R., ed. New Perspectives in Job Enrichment. New York: Van Nostrand Reinhold, 1971.

Megginson, Leon C. Personnel: A Behavioral Approach to Administration. Rev. ed. Homewood, IL: Irwin, 1972.

Rock, Milton, ed. Hanbook of Wage and Salary Administration. New York: McGraw-Hill, 1972.

Tracy, William. Designing Training and Development Systems. New York: American Management Association, 1971.

Marketing

Bass, Frank; King, Charles; and Pessemeir, Edage, eds. Applications of the Sciences in Marketing Management. New York: Wiley, 1968.

Bowersox, Donald J.; Smykay, Edward W; and LaLonde, Bernard J. Physical Distribution Management: Logistic Problems of the Firm. Rev. ed. New York: Macmillan, 1968.

Boyd, Harper W., Jr., and Westfall, Ralph. Marketing Research: Text and Cases. 3d ed. Homewood, IL: Irwin, 1972.

Buell, Victor P., ed. Handbook of Modern Marketing. New York: McGraw-Hill, 1970.

Carman, James, and Uhl, Kenneth, Philips and Duncan's Marketing: Principles and Methods. 7th ed. Homewood, IL: Irwin, 1972.

Conference Board. The Consumer Affairs Department: Organization and Functions. New York: Conference Board, 1973.

Davis, Kenneth R., and Webster, Frederick E., Jr. Sales Force Management. New York: Ronald, 1968.

Engel, James F.; Kollat, David T.; and Blackwell, Roger D. Consumer Behavior. 2d ed. New York: Holt, Rinehart & Winston, 1973.

_____; Wales, Hugh G.; and Warshaw, Martin R. Promotional Strategy. 3d ed. Homewood, IL: Irwin, 1975.

Enis, Ben M. Marketing Principles: The Management Process. Pacific Palisades, CA: Goodyear Publishing Co., 1974.

Farley, John; Howard, John; and Ring, L. Winston. Consumer Behavior: Theory and Application. Boston: Allyn & Bacon, 1974.

Ferber, Robert, ed. Handbook of Marketing Research. New York: McGraw-Hill, 1974.

Green, Paul E., and Tull, Donald S. Research for Marketing Decisions. 3d ed. Englewood Cliffs, NJ: Prentice-Hall, 1974.

Heskett, J. L.; Ivie, Robert M.; and Glaskowsky, Nicholas A. Business Logistics: Physical Distribution and Materials Management. 2d ed. New York: Ronald, 1973.

Kotler, Philip. Marketing Decision Making: Model Building Approach.

Magee, John F. Physical-Distribution Systems. New York: McGraw-Hill, 1967.

Mallen, Bruce E., ed. The Marketing Channel: A Conceptual Viewpoint. New York: Wiley, 1967.

McCarthy, E. Jerome, Basic Marketing: A Managerial Approach. 4th ed. Homewood, IL: Irwin, 1971.

McElhiney, Paul, and Hilton, Charles. Introduction to Logistics and Traffic Management. Dubuque, IA: W. C. Brown, 1968.

Press, Sheldon James. Applied Multivariate Analysis. New York: Holt, Rinehart & Winston, 1972.

Smykay, Edward W. Physical Distribution Management. 3d ed. New York: Macmillan, 1973.

Stanton, William J., and Buskirk, Richard H. Management of the Sales Force. 4th ed. Homewood, IL: Irwin, 1974.

Sturdivant, Frederick D., et al. Managerial Analysis in Marketing. Glenview, IL: Scott Foresman, 1970.

Thompson, Joseph W. Selling: A Managerial and Behavioral Science Analysis. 2d ed. New york: McGraw-Hill, 1973.

Walters, C. Glenn. Consumer Behavior: Theory and Practice. Rev. ed. Homewood, IL: Irwin, 1974.

Ward, Scott, and Robertson, Thomas S., eds. Consumer Behavior: Theoretical Sources. Englewood Cliffs, NJ: Prentice-Hall, 1973.

Zaltman, Gerald, and Burger, Philip C. Marketing Research: Fundamentals and Dynamics. Hinsdale, IL: Dryden Press, 1975.

Management sciences

Ackoff, Russell L., and Sasieni, Maurice. Fundamentals of Operations Research. New York: Wiley, 1968.

American Institute of Certified Public Accountants. Guidelines for Systems for the Preparation of Financial Forecasts. (Management Advisory Services Guidelines Series No. 3.) New York: American Institute of Certified Public Accountants, 1975.

_____. Techniques for Forecasting Product Demand. (Management Advisory Services Technical Study No. 7.) New York: American Institute of Certified Public Accountants, 1968.

Brown, R. G. Decision Rules for Inventory Management. New York: Holt, Rinehart & Winston, 1967.

Charnes, A., and Cooper, W. W. Management Models and Industrial Applications of Linear Programming. Vols. 1 & 2. New York: Wiley, 1961.

Churchman, C. West; Ackoff, Russell; and Arnoff, E. Leonard. Introduction to Operations Research. New York: Wiley, 1957.

Cyert, R. M., and Davidson, H. Justin. Statistical Sampling for Accounting Information. Englewood Cliffs, NJ: Prentice-Hall, 1972.

Fabrycky, W. J.; Ghare, P. M.; and Torgersen, P. E. Industrial Operations Research. Englewood Cliffs, NJ: Prentice-Hall, 1972.

Gavett, J. W. Production and Operations Management. New York: Harcourt Brace and World, 1968.

Gordon, Geoffrey. System Stimulation. Englewood Cliffs, NJ: Prentice-Hall, 1969.

Hillier, F. S., and Lieberman, G. J. Introduction to Operations Research. San Francisco: Holden-Day, 1967.

Johnson, Lynwood A., and Montgomery, Douglas C. Operations Research in Production Planning, Scheduling, and Inventory Control. New York: Wiley, 1974.

King, William R.Quantitative Analysis for Marketing Management. New York: McGraw-Hill, 1967.

Krajewski, Lee J. and Thompson, Howard E. Management Science: Quantitative Methods In Context. New York: Wiley, 1981.

Leontief, Wassily W. Input-Output Economics. New York: Oxford University Press, 1966.

Meier, Robert C.; Newell, William T.; and Pazar, Harold L. Simulation in Business and Economics. Englewood Cliffs, NJ: Prentice-Hall, 1969.

Montgomery, D. B., and Urban, Glen L., eds. Application of Management Sciences in Marketing. Englewood Cliffs, NJ: Prentice-Hall, 1969.

Nelson, Charles R. Applied Time Series Analysis for Managerial Forecasting. San Francisco: Holden-Day, 1973.

Peters, William S. and Summers, George W. Statistical Analysis for Business Decisions Englewood Cliffs, NJ: Prentice-Hall, 1968.

Rappaport, Alfred, ed. Information for Decision Making: Quantitative and Behavioral Dimensions. 2d ed. Englewood Cliffs, NJ: Prentice-Hall, 1975.

Schuchman, Abraham, ed. Scientific Decision Making in Business: Readings in Operations Research for Nonmathematicians. New York: Holt, Rinehart & Winston, 1963.

Siemens, Nicolai, Marting, C. H.; and Greenwood, Frank. perations Research: Planning Operating, and Information Systems. New York: Free Press, 1973.

Wagner, Harvey M. Principles of Operations Research: With Applications to Manage rial Decisions. 2d ed. Englewood Cliffs, NJ: Prentice-Hall, 1975.

Wonnacott, Thomas H., and Wonnacott Ronald J. Introductory Statistics, 3rd ed. New York: Wiley, 1977.

Government and not-for-profit-organizations

American Hospital Association. Basic Personnel Policies and Programs for a Health Care Institution. Chicago: American Hospital Association, 1974.

_____. Capital Financing for Hospitals. Chicago: American Hospital Association, 1974.

_____. Classification of Health Care Institutions. Chicago: American Hospital Asssociation, 1974.

_____. Guide for Preparation of Constitution and Bylaws for General Hospitals. Chicago: American Hospital Association, 1973.

_____. Hospital Engineering Handbook. Chicago: American Hospital Association, 1974.

_____. Internal Control and Internal Auditing for Hospitals. Chicago: American Hospital Association, 1969.

American Institute of Certified Public Acountants. Audits of State and Local Governmental Units. (Industry Audit Guide Series.) New York: American Institute of Certified Public Acountants, 1974.

Anderson, William H. Financing Modern Government: The Political Economy of the Publ ic Sector. Boston: Houghton Mifflin, 1973.

Anthony, Robert N. and Herzlinger, Regina E. Management Control in Non-Profit Organizations, Homewood, IL, 1980.

Benton, John B. Managing the Organizational Decision Process. Lexington, MA: Lexington Books, 1973

Bergwall, D. F., et al. Introduction to Health Planning. Information Resources Press, 1974.

Bernstein, R. A Computerized Cost Allocation System for Hospital Use. Austin, TX: University of Texas, 1972.

Black, Guy. The Application of Systems Analysis to Government Operations. New York: Praeger, 1968.

Buechner, John C. Public Administration. Belmont, CA: Dickenson, 1968.

Caiden, Gerald E. The Dynamics of Public Administration: Guidelines to Current Tranformations in Theory and Practice. New York: Holt, Rinehart & Winston, 1971.

Dimock, Marshall E. A Philosophy of Administration Toward Creative Growth. New York: Haper & Row, 1958.

Drake, Alvin W.; Keeney, Ralph L; and Morse, Philip M., Eds. Analysis of Public Systems. Cambridge, MA: M.I.T. Press, 1972.

Due, John F., and Freedlaender, Ann F. Government Finance: Economics of the Public Sector. 5th ed. Homewood, IL: Irwin, 1973.

Edwards, George C. III. Implementing Public Policy. Washington, D.C.: Congresisonal Quarterly Press, 1980.

George, Alexander L. Presidential Decisionmaking in Foreign Policy: The Effective Use of Information and Advice. Boulder, CO: Westview Press, 1980.

Gross, Bertram M. The Managing of Organizations: The Administrative Struggle. 2 vols. New York: Free Press, 1964.

Harbour, Mack D. Job Evaluation - Handbook for Hospitals. Memphis, TN: Institutional Publishers, 1972.

Hartley, Harry J. Educational Planning, Programming, Budgeting: A Systems Approach. Englewood Cliffs, NJ: Prentice-Hall, 1968.

Hasso, Nazar T. A Model for Dynamic Administrative Planning. Austin, TX: University of Texas Press, 1970.

Hay, Leon E., and Mikesel, R. M. Governmental Accounting. 5th ed. Homewood, IL: Irwin, 1974.

Accounting Manual for Health Maintenance Organizations. Washington, DC: Department of Health, Education and Welfare, 1972.

Heller, Walter W., et al. Revenue Sharing and the City. Baltimore: Johns Hopkins Press, 1968.

Henke, Emerson O. Accounting for Nonprofit Organizations. Belmont, CA: Wadsworth, 1966.

Hovey, Harold A. The Planning-Programming-Budgeting Approach to Government Decision-Making. New York: Praeger, 1968.

Hyman, David N. The Economics of Governmental Activity. New York: Holt, Rinehart & Winston, 1973.

Ippolito, Dennis S. The Budget and National Politics. San Francisco: W. H. Freeman and Co., 1978.

Lippitt, Gordon L., et al. Optimizing Human Resources: Readings in Individual and Organization Development. Reading, MA: Addison- Wesley Publishing Co., 1971.

Lyden, Fremont J., and Miller, Ernest G., eds. Planning, Programming, Budgeting: A Systems Approach to Management. 2d ed. Chicago: Markham Publishing Co., 1972.

Pyhrr, Peter A. Zero-Base Budgeting: A Practical Management Tool for Evaluating Expenses. New York: Wiley, 1973.

Sayles, Leonard R., and Chandler, Margaret K. Managing Large Systems: Organizations for the Future. New York: Harper & Row, 1971.

Steiss, Alan W. Public Budgeting and Management. Lexington, MA: Lexington Books, 1972.

Wagner, Richard E. The Public Economy. Chicago: Markham Publishing Co., 1973.

Whittick, Arnold, ed. Encyclopedia of Urban Planning. New York: McGraw-Hill, 1974.

Willner, William, and Hendricks, Perry B., Jr. Grants Administration. Washington, DC: National Graduate University, 1972.

INITIAL DISTRIBUTION LIST

		No. Copies
1.	Defense Technical Information Center Cameron Station Alexandria, Virginia 22314	2
2.	Library, Code 0142 Naval Postgraduate School Monterey, California 93940	2
3.	Department Chairman, Code 54Js Department of Administrative Sciences Naval Postgraduate School Monterey, California 93940	1
4.	LCDR Robert A. Bobulinski, SC, USN Code 54Bb Department of Administrative Sciences Naval Postgraduate School Monterey, California 93940	4
5.	Professor James Fremgen Code 54Fg Department of Administrative Sciences Naval Postgraduate School Monterey, California 93940	1
6.	Defense Logistics Studies Information Exchange U.S. Army Logistics Management Center Fort Lee, Virginia 23801	1
7.	Professor Larry Kreiser Department of Accounting Cleveland State University Cleveland, Ohio 44115	2
8.	Mr. Edward I. McQuiston, Jr. Director, Special Projects California Certified Public Accountants Foundation for Education and Research 1000 Welch Road Palo Alto, California 94304	3
9.	LT David G. Hickman, CEC, USN 4430 Grove City Road Grove City, Ohio 43123	2

Thesis
H52649
c.1

Hickman
Management advisory services by CPA's; a survey of current expansion of sole proprietor professional practice units.

Thesis
H52649
c.1

Hickman
Management advisory services by CPA's; a survey of current expansion of sole proprietor professional practice units.

thesH52649
Management advisory services by CPA's :
3 2768 002 05952 9
DUDLEY KNOX LIBRARY